X6004

IP PBX

CLI Reference Guide

Version 1.0
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Edition 1

DEFAULT LOGIN	
User Name	**admin**
Password	**1234**

ZyXEL

www.zyxel.com

About This CLI Reference Guide

Intended Audience

This manual is a complementary supplement to the User's Guide. It is intended for people who want to configure the X6004 via the Command Line Interface (CLI). See your User's Guide for details about feature implementation.

Please refer to www.zyxel.com or your product's CD for the User Guide and product certifications.

How To Use This Guide

- Read the **How to Access the CLI** chapter for information on how to access the command interface on your X6004.
- Use the **Reference** section in this guide for command syntax, description and examples. Each chapter describes commands related to a feature.
- To find specific information in this guide, use the **Contents Overview**, the **Index of Commands**, or search the PDF file. E-mail techwriters@zyxel.com.tw if you cannot find the information you require.

CLI Reference Guide Feedback

Help us help you. Send all Reference Guide-related comments, questions or suggestions for improvement to the following address, or use e-mail instead. Thank you!

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Document Conventions

Warnings and Notes

These are how warnings and notes are shown in this CLI Reference Guide.

Warnings tell you about things that could harm you or your device. See your User's Guide for product specific warnings.

Notes tell you other important information (for example, other things you may need to configure or helpful tips) or recommendations.

Syntax Conventions

This manual follows these general conventions:

- ZyXEL's X6004 may be referred to as the "X6004", the "device", the "system" or the "product" in this Reference Guide.
- Units of measurement may denote the "metric" value or the "scientific" value. For example, "k" for kilo may denote "1000" or "1024", "M" for mega may denote "1000000" or "1048576" and so on.

Command descriptions follow these conventions:

- Commands are in `courier new font`.
- Required input values are in angle brackets <>; for example, `ping <ip>` means that you must specify an IP address for this command.
- Optional fields are in square brackets []; for instance `diag pbx show hunts [mid]`, the `mid` parameter is optional.

  The following is an example of a required field within an optional field: `diag show uptime [mid <mid>]`, the `mid` field is optional. However, if you use `mid`, then you must provide the machine id information (*mid*).
- The | (bar) symbol means "or".
- *italic* terms represent user-defined input values; for example, in `system admin show <username>`, *username* can be replaced by the administrator's name.
- A key stroke is denoted by square brackets and uppercase text, for example, [ENTER] means the "Enter" or "Return" key on your keyboard.
- `<cr>` means press the [ENTER] key.
- An arrow (`-->`) indicates that this line is a continuation of the previous line.

Command summary tables are organized as follows:

Table 1 Example: Command Summary Table

COMMAND	DESCRIPTION
`network ddns set enableddns <on|off>`	Enables or disables DDNS (Dynamic DNS) on the X6004.
`network ddns set host <ddns_host>`	Specifies the domain name assigned to the X6004 by your DDNS provider.
`network ddns set mail_exchanger <exchange-server|off>`	Specifies the domain name or IP address of the email exchange server in your organization or disables the registration of the email server with the DDNS provider.

The **Table** title identifies commands or the specific feature that the commands configure.

The **COMMAND** column shows the syntax of the command.

The **DESCRIPTION** column explains what the command does. It also identifies legal input values, if necessary.

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PART I
Introduction

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1

How to Access and Use the CLI

This chapter introduces the command line interface (CLI).

1.1 Use the Console Port to Access the CLI

1. Connect your computer to the console port on the X6004 using the appropriate cable.
2. Use terminal emulation software with the following settings:

Table 2 Default Settings for the Console Port

SETTING	DEFAULT VALUE
Terminal Emulation	VT100
Baud Rate	115200 bps
Parity	None
Number of Data Bits	8
Number of Stop Bits	1
Flow Control	None

3. Press [ENTER] to open the login screen.

1.2 The Login Screen

After you have successfully established a connection to the X6004 using a direct console connection or SSH, a login screen displays as shown below. For your first login, enter the default administrator login username “admin” and password “1234”.

```
localhost login: admin
Password:
```

1.3 Command Presentation in Summary Tables

The summary tables group commands by the same initial key words. The initial key words determine what function you are going to configure. For example, the initial key words `network ddns` indicate that the commands that begin with these key words are used to configure Dynamic DNS settings. An example command summary table is shown next:

Table 3 Example Command Summary Table

COMMAND	DESCRIPTION
`network ddns on`	This is an example of key words `network ddns` with the subcommand `on`.
`network ddns on set host <ddns_host>`	This is an example of a subcommand `set host <ddns_host>`.

1.4 Changing the Password

This command is used to change the password for the administrator.

The password you change with this command is required to enter the CLI.

Syntax:

`system admin set username <admin_username> password <admin_password>`

where

`username <admin_username>`	=	Specifies the administrator account you want to edit.
`password <admin_password>`	=	Specifies the new password (up to 32 alphanumeric characters) administrators have to type to enter the CLI.

1.5 Administrator Rank

The X6004 supports a ranking system for administrators. An administrator can have read-only rights, full administrative rights or debugging rights. Use the following command to change the rank of an administrative account.

Syntax:

`system admin set username <admin_username> rank <readonly|fulladmin|debugadmin>`

where

`username <admin_username>`	=	Specifies the administrative account you want to edit or create.
`rank <readonly|fulladmin|debugadmin>`	=	Specifies the rank you want to assign to this administrative account. Assign a rank of: `readonly` - for read-only accounts. Only show commands can be executed. `fulladmin` - for full administrative accounts. All commands except for diagnostic and debug commands can be executed. `debugadmin` - for debugging accounts. All commands can be executed.

2

General Commands

This chapter discusses commands related to navigating within the CLI, saving your configuration settings, getting help as well as viwing system information.

2.1 General Command Summary

The following table summarizes the commands related to the CLI.

Table 4 General Commands

COMMAND	DESCRIPTION
`clear history`	Clears the history buffer of the commands entered on the X6004.
`clear screen`	Clears the screen display.
`config show systeminfo`	Displays key information related to the firmware and hardware configuration on the X6004.
`exit`	Logs the administrator out.
`history`	Displays the last 200 commands executed on the X6004. The commands executed via both CLI and the web configurator are displayed.
`quit`	Logs the administrator out.
`system config conf_reset`	Restores factory default configuration.
`system reboot`	Restarts the X6004.
`?`	Displays the available commands or subcommands. In some cases, displays description of available commands.

2.2 Getting Help

The system includes a help facility to provide you with the following information about the commands:

- List of available commands or keywords necessary to start a command.
- List of keywords available to complete a command.

2.2.1 List of Available Commands

Enter "?" or hit [TAB] to display a list of commands you can use.

```
> ?
clear           clear something
config
exit            exit extensible ZyXEL shell
history         command history
log
network
pbx
quit             exit extensible ZyXEL shell
stack
system
time
```

You can also enter "?" or hit [TAB] after you have entered a complete key word or words of a command to see options available to finish the command.

```
> network [TAB]
ddns  interface  route
```

2.3 Using Command History

The X6004 keeps a list of recently used commands available to you for reuse. You can use any commands in the history again by pressing the up (↑) or down (↓) arrow key to scroll through the previously used commands and press [ENTER]. Use the `history` command to display the list of commands.

For brevity's sake, the results below only show a partial result of the entire list of commands displayed by the X6004.

```
> history
1. pbx
2. pbx server fxo show
3. config
.
.
.
196. config show systeminfo
197. exit
198. exit
199. config show systeminfo
200. clear screen
```

The `history` command displays all user entered commands regardless of whether they were successfully executed or not.

2.4 Saving Your Configuration

After you set the X6004 settings with the configuration commands, use the `write` command to save the changes permanently.

The `write` command is not available for users with read-only privilege level.

You must save your changes after each CLI session. All unsaved configuration changes are lost once you restart the X6004.

```
write
```

2.5 Logging Out

Enter the `exit` or the `quit` command to log out of the CLI.

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3

Network Commands

This chapter describes the commands used to configure the network settings on the X6004.

3.1 DDNS Commands

This section describes the commands used to configure dynamic DNS settings on the X6004.

The following table describes commands related to the log functions on the X6004.

Table 5 DDNS Commands

COMMAND	DESCRIPTION
`network ddns update`	Updates DDNS (Dynamic DNS) settings on the remote DDNS server.
`network ddns set enableddns <on|off>`	Enables or disables DDNS.
`network ddns set host <ddns_host>`	Specifies the domain name assigned to the X6004 by your DDNS provider.
`network ddns set mail_exchanger <exchange-server|off>`	Specifies the domain name or IP address of the email exchange server in your organization or disables the registration of the email server with the DDNS provider.
`network ddns set service-type <dyndns|dyndns-static|dyndns-custom>`	Specifies the DDNS service type that you are registered for with your DDNS provider.
`network ddns set user <ddns_user>:<ddns_password>`	Specifies the DDNS username and password assigned to your by your DDNS provider.
`network ddns set wildcard <on|off>`	Enables DynDNS wildcard option on the X6004.
`network ddns show`	Displays DDNS configuration on the X6004.

3.1.1 DDNS Command Examples

This example:

- Enables DDNS.
- Specifies the domain name assigned to the X6004 by your DDNS provider.
- Specifies the username (**ddnsuser**) and password (**ddnspass**) as provided by the DDNS provider.

- Displays DDNS settings.

```
> network ddns on
success
> network ddns set host 172.168.0.1
ok
> network ddns set user ddnsuser:ddnspass
ok
> network ddns show
host=172.168.0.1
interface=eth0.4000
user=ddnsuser:ddnspass
```

3.2 Network Interface Commands

This section describes the commands used to configure the LAN and WAN port settings on the X6004.

The following table lists the commands for this feature.

Table 6 Network Interface Commands

COMMAND	DESCRIPTION
`network interface lan ip address <ip-address> netmask <subnet-mask>`	Specifies the LAN IP address and subnet mask.
`network interface show ip all`	Displays the LAN and WAN IP address configuration on the X6004.
`network interface wan ip address <ip-address> netmask <subnet-mask>`	Specifies the WAN IP address and subnet mask.
`network interface wan ip address dhcp`	Either disables or enables DHCP on the X6004.
`network interface wan ip address dhcp renew`	Renews the IP address from the DHCP server.
`network interface wan ip address static`	Sets the WAN IP address to static.
`network interface wan ip first-dns-server <ip-address>`	Specifies the IP address of the primary DNS server.
`network interface wan ip gateway <ip-address>`	Specifies the IP address of the WAN default gateway.
`network interface wan ip second-dns-server <ip-address>`	Specifies the IP address of the secondary DNS server.

3.2.1 Network Interface Command Examples

This example:

- Sets the LAN IP address (**192.168.1.10**) and subnet mask (**255.255.255.0**).
- Sets the WAN IP address (**172.16.1.201**) and subnet mask (**255.255.255.0**).
- Sets the default gateway (**172.16.1.254**) for the WAN interface.
- Sets the primary DNS server (**172.16.5.1**) for the WAN interface.

- Displays network interface settings.

```
> network interface lan ip address 192.168.1.10 netmask 255.255.255.0
> network interface wan ip address 172.16.1.201 netmask 255.255.255.0
> network interface wan ip gateway 172.16.1.254
> network interface wan ip first-dns-server 172.16.5.1
> network interface show ip all
IP Address    Subnet Mask    Gateway     IPMode    State    Network Interface

172.16.1.201 255.255.255.0  172.16.1.254 STATIC    up         WAN
192.168.1.10 255.255.255.0               STATIC   down        LAN
```

3.3 Time Commands

The following table describes commands related to setting the time on the X6004.

Table 7 Time Commands

COMMAND	DESCRIPTION
time clock date <*yyyy-mm-dd*> time <*hh*:*mm*:*ss*>	Sets the date and time manually.
time clock daylight-saving	Enables daylight saving.
time clock no daylight-saving	Disables daylight saving.
time clock saving-interval begin <*month*> <1~4|last> <*weekday*> <*hh:mm*> end <*month*> <1~4|last> <*weekday*> <*hh:mm*> <*offset*>	Defines daylight saving period and time offset. *month*: jan, feb, mar, ... <1~4|last>: specifies the week of the month *offset*: range of 1~5 in .5 hour interval. For example 1.5 means 1 and a half hours.
time clock time <*hh*:*mm*:*ss*>	Sets time manually.
time clock time-zone <[-]*hh*>	Sets time zone.
time ntp server1 <*hostname*>	Sets the hostname or IP of the first time server.
time ntp server2 <*hostname*>	Sets the hostname or IP of the second time server.
time ntp sync	Synchronizes the time with the time server.
time show clock date	Displays current date.
time show clock status	Displays current status including time zone and daylight saving.
time show clock time	Displays current time.
time show ntp server	Displays the time server list.

3.3.1 Time Command Examples

This example sets the X6004 to use a time server and displays time server details.

```
> time ntp server1 0.pool.ntp.org
> time show ntp server
NTP server : 0.pool.ntp.org 1.pool.ntp.org
last update time: Fri Aug 17 03:02:22 GMT+8 2007
```

3.4 Static Routes Commands

This section describes the commands used to configure static routes on the X6004.

The following table lists the commands for this feature

Table 8 Static Route Commands

COMMAND	DESCRIPTION
`network route add net <ip-address> mask <subnet-mask> gw <ip-address> dev <interface>`	Adds a static route entry for the specified interface of the X6004. Note: At the time of writing only `LAN` is allowed.
`network route del net IPv4 mask IPv4Mask gw IPv4 dev <interface>`	Deletes an existing static route entry.
`network route show all`	Displays all static routes configured on the X6004.

3.4.1 Static Routes Command Examples

This example:

- Adds the static route **192.168.2.0** with network mask **255.255.255.0** for the LAN interface.
- Displays static routes.

```
> network route add net 192.168.2.0 mask 255.255.255.0 gw 192.168.1.254 dev
LAN
> network route show all
Network         Subnet Mask      Gateway IPNetwork    Interface

192.168.2.0     255.255.255.0      192.168.1.254      LAN
```

4

SIP Server Commands

This chapter shows you how to configure auto provisioning via commands.

4.1 SIP Server Commands

The following table describes commands for configuring the SIP Server on the X6004.

Table 9 SIP Server Commands

COMMAND	DESCRIPTION
`pbx sip reload`	Reloads the X6004 SIP configuration.
`pbx server sip set disable_codec <codec>`	Disables the specified codec on the X6004. *codec*: At the time of writing you can globally disable the G723.1 codec by entering `g723`. You need to restart the X6004 for this setting to be applied.
`pbx server sip set enable_codec <codec>`	Enables the specified codec on the X6004. *codec*: At the time of writing you can globally enble the G723.1 codec by entering `g723`. You need to restart the X6004 for this setting to be applied.
`pbx server sip set expiration <sipconf_reg_time>`	Sets the SIP register server expiry timeout value.
`pbx server sip set realm <sipconf_realmname>`	Sets the SIP server realm name. A realm is a set of accounts on a SIP server. When clients authenticate with a SIP server they must provide the realm name along with their username and password. Alphanumeric characters are allowed; spaces are not allowed.
`pbx server sip set ring_time <1~300>`	Sets the SIP server global ring time value in seconds.
`pbx server sip set rtp_port_start <1025~65535> rtp_port_end <1025~65535>`	Sets the SIP server RTP port range.
`pbx server sip set sip_port <1~65535>`	Sets the SIP register port on the X6004.
`pbx server sip show disable_codec`	Shows the audio and video codecs that are disabled on the X6004.
`pbx server sip show expiration`	Shows the X6004 SIP register server expiry timeout value.
`pbx server sip show realm`	Shows the X6004 SIP realm name.
`pbx server sip show ring_time`	Shows the X6004 SIP server global ring time value.
`pbx server sip show rtp_port`	Shows the RTP port range configuration for the X6004.
`pbx server sip show sip_port`	Shows the SIP port configured on the X6004.

4.1.1 SIP Server Command Examples

This example:

- Sets the SIP listening port on the X6004 to **560**.
- Sets the SIP client expiry duration value to **1000** seconds. This is how long SIP clients remain registered with the X6004 before they need to reregister.
- Specifies the RTP port range as **10000-20000**.
- Sets the ring time value for all clients to **20** seconds.

```
> pbx server sip set sip_port 560
> pbx server sip set expiration 1000
> pbx server sip set rtp_port_start 10000 rtp_port_end 20000
> pbx server sip set ring_time 20
```

4.2 Voicemail Commands

The following table describes commands for configuring the Voicemail on the X6004.

Table 10 Voicemail Commands

COMMAND	DESCRIPTION
`pbx server voice_mail relay set domain` *domain*	Set the IP address or domain name of the mail relay server.
`pbx server voice_mail relay set port <0~65535>`	Sets the port number of the mail relay server.
`pbx server voice_mail relay show`	Displays the mail relay server settings.
`pbx server voice_mail set maxlength <1~90>`	Set the maximum amount of time in seconds of a single voicemail message.
`pbx server voice_mail set quota <1~300>`	Sets the maximum amount of time in seconds of all voicemail messages per extension.
`pbx server voice_mail show`	Shows the configuration of voicemail functions.

4.2.1 Voicemail Command Examples

This example:

- Sets the maximum length of a voicemail message to 75 seconds.
- Sets the maximum amount of time for all messages per extension to 240 seconds.
- Displays the voicemail settings.

```
> pbx server voice_mail set maxlength 75
zyTimer monitor thread release
> pbx server voice_mail set quota 240
zyTimer monitor thread release
> pbx server voice_mail show
maxmessage = [75]
quota = [240]
```

4.3 Call Block Commands

The following table describes commands related to the call blocking feature on the X6004.

Table 11 Call Blocking Commands

COMMAND	DESCRIPTION
`pbx server callblock add blacklist <black_num>`	Adds a number to the black list on the X6004. *black_num*: A telephone number.
`pbx server callblock del blacklist <black_num>`	Deletes a number from the blacklist on the X6004. *black_num*: A telephone number.
`pbx server callblock set blacklist off`	Disables the blacklist feature on the X6004.
`pbx server callblock set blacklist on`	Enables the blacklist feature on the X6004.
`pbx server callblock set no_callerid off`	Disables blocking of calls without caller ID.
`pbx server callblock set no_callerid on`	Enables blocking of calls without caller ID.
`pbx server callblock show all`	Shows call blocking configuration on the X6004.
`pbx server callblock show blacklist`	Displays the numbers in the blacklist on the X6004.

4.3.1 Call Block Command Examples

This example:

- Adds the numbers **5554444** and **7778888** to the blacklist on the X6004.
- Turns the blacklist feature on
- Disables blocking calls without caller ID.
- Displays configuration details of the call blocking feature on the X6004.
- Displays the blacklisted numbers.

```
> pbx server callblock add blacklist 5554444
> pbx server callblock add blacklist 7778888
> pbx server callblock set blacklist on
> pbx server callblock set no_callerid off
> pbx server callblock show all
blacklist=off
blocknoid=off
> pbx server callblock show blacklist
0 = 5554444
1 = 7778888
```

4.4 DSP Management Commands

The following table describes commands related to Digital Signal Processing (DSP) management on the X6004.

Table 12 DSP Management Commands

COMMAND	DESCRIPTION
`pbx server dsp set mid <mid> conf <dsp-channels>`	Specifies the number of DSP channels to reserve for conference calling. *mid*: IPPBX_001, IPPBX_002, ... *dsp-channels*: integer specifying a number of DSP channels.
`pbx server dsp show all`	Displays the DSP channel configuration for all members of a ZyStack.
`pbx server dsp show mid <mid>`	Displays the DSP channel configuration for the X6004.

4.4.1 DSP Management Command Examples

This example:

- Reserves 6 DSP channels for conference calling on the X6004.

The resource reservation takes place once there are no active calls on the system.

- Displays the DSP channel configuration for the X6004.

```
> pbx server dsp set mid IPPBX_001 conf 6
SI3215: si3215lm_close
SI3215: si3215lm_close
SI3215: si3215lm_close
SI3215: si3215lm_close
SI3050: fxo close
SI3050: fxo close
SI3050: fxo close
SI3050: fxo close
The DSP resource reservation will be applied as all ongoing calls are
terminated.
> pbx server dsp show mid IPPBX_001
/config/ZyStack/IPPBX_001/DSPmanage.conf
[ IPPBX_001 DSP Info. ]
Total available = 21
FXO = 4
FXS = 4
SIP trunk = 2
Conference =6
Share = 5
```

4.5 Feature Code Commands

The following table describes commands related to feature codes on the X6004. The feature codes are numbers users can dial to manage personal extension settings such as call forwarding and call blocking.

Table 13 Feature Code Commands

COMMAND	DESCRIPTION
`pbx server featurecode set blacklistoff <code>`	Changes the **Black List Off** feature code.
`pbx server featurecode set blackliston <code>`	Changes the **Black List On** feature code.
`pbx server featurecode set callblockoff <code>`	Changes the **Call Block Off** feature code.
`pbx server featurecode set callblockon <code>`	Changes the **Call Block On** feature code.
`pbx server featurecode set callfwdbusyivr <code>`	Changes the **Call Forward Busy IVR** feature code.
`pbx server featurecode set callfwdbusyoff <code>`	Changes the **Call Forward Busy Off** feature code.
`pbx server featurecode set callfwdbusyon <code>`	Changes the **Call Forward Busy On** feature code.
`pbx server featurecode set callfwdivr <code>`	Changes the **Call Forward IVR** feature code.
`pbx server featurecode set callfwdnoansivr <code>`	Changes the **Call Forward No Answer IVR** feature code.
`pbx server featurecode set callfwdnoansoff <code>`	Changes the **Call Forward No Answer Off** feature code.
`pbx server featurecode set callfwdnoanson <code>`	Changes the **Call Forward No Answer On** feature code.
`pbx server featurecode set callfwdoff <code>`	Changes the **Call Forward Off** feature code.
`pbx server featurecode set callfwdon <code>`	Changes the **Call Forward On** feature code.
`pbx server featurecode set callpark <code>`	Changes the **Call Park** feature code.
`pbx server featurecode set calltransfer <code>`	Changes the **Call Transfer** feature code.
`pbx server featurecode set directpickup <code>`	Changes the **Direct Pickup** feature code.
`pbx server featurecode set dndoff <code>`	Changes the **DND Off** feature code.
`pbx server featurecode set dndon <code>`	Changes the **DND On** feature code.
`pbx server featurecode set dnnivr <code>`	Changes the **DND IVR** feature code.
`pbx server featurecode set followmeoff <code>`	Changes the **Follow Me Off** feature code.
`pbx server featurecode set followmeon <code>`	Changes the **Follow Me On** feature code.
`pbx server featurecode set grouppickup <code>`	Changes the **Group Pickup** feature code.
`pbx server featurecode set personalivr <code>`	Changes the **Personal IVR** feature code.
`pbx server featurecode set voicemail <code>`	Changes the **Voice Mail** feature code.
`pbx server featurecode show all`	Displays the feature codes.

4.5.1 Feature Code Command Examples

This example:

- Changes the **Black List On** feature code to ***11**.
- Changes the **Call Forward Busy On** feature code to ***12**.

- Displays the feature codes configured on the X6004.

```
> pbx server featurecode set blackliston *11
> pbx server featurecode set callfwdbusyon *12
> pbx server featurecode show all
CallFWDBusyOn=*12
CallFWDBusyOff=*91
CallFWDBusyIVR=*92
CallFWDOn=*72
CallFWDOff=*73
CallFWDIVR=*74
CallPickupGroup=*94
CallPickupDirect=*95
CallTRF=*96
DNDOn=*78
DNDOff=*79
DNDIVR=*80
PersonalIVR=*
VoiceMail=**
BlackListOn=*11
BlackListOff=*85
CallBlockOn=*77
CallBlockOff=*87
FollowMeOn=*22
FollowMeOff=*23
CallFWDNoAnswerOn=*82
CallFWDNoAnswerOff=*83
CallFWDNoAnswerIVR=*84
```

5

Auto Provisioning Commands

This chapter shows you how to configure auto provisioning via commands.

5.1 Auto Provisioning Commands

The following table describes commands related to the auto provisioning functions on the X6004.

Table 14 Auto Provisioning Commands

COMMAND	DESCRIPTION
`pbx reload`	Reload the configuration of SIP server
`pbx server auto_provision account`	Shows all SIP accounts configured on the X6004.
`pbx server auto_provision gen peer_num <extension>`	Generates a configuration file for a SIP account.
`pbx server auto_provision get peer_num <extension> sipaccount mac`	Displays the MAC address of a ZyXEL IP phone for this SIP account.
`pbx server auto_provision get peer_num <extension> sipaccount password`	Displays the SIP password of a SIP extension.
`pbx server auto_provision get peer_num <extension> sipaccount port`	Displays the port number of a ZyXEL ATA (Analog Telephone Adapter) configured for this SIP account.
`pbx server auto_provision get peer_num <extension> sipaccount regexpire`	Displays the SIP server registration expiration value for this SIP account.
`pbx server auto_provision get peer_num <extension> sipaccount regip`	Displays the LAN IP address of the X6004.
`pbx server auto_provision get peer_num <extension> sipaccount regport`	Displays the port configured for SIP registration for this SIP account.
`pbx server auto_provision get peer_num <extension> sipaccount serial`	Displays the serial number of a ZyXEL softphone that is configured for this SIP account.
`pbx server auto_provision get peer_num <extension> sipaccount sipip`	Displays the SIP proxy server IP address configured for this SIP account.
`pbx server auto_provision get peer_num <extension> sipaccount sipport`	Displays the port on the SIP server configured for this SIP account.
`pbx server auto_provision get peer_num <extension> sipaccount userid`	Displays the SIP username configured for this SIP account.
`pbx server auto_provision get peer_num <extension> sipaccount username`	Displays the SIP username for this SIP account.
`pbx server auto_provision get peer_num <extension> sptgen password`	Displays the SIP password configured in the auto provisioning file for this SIP account.

Table 14 Auto Provisioning Commands (continued)

COMMAND	DESCRIPTION
pbx server auto_provision get peer_num <*extension*> sptgen phoneno	Displays the extension configured in the auto provisioning file for this SIP account.
pbx server auto_provision get peer_num <*extension*> sptgen provactive	Displays whether the auto provisioning file for this SIP account is active (1) or inactive (0).
pbx server auto_provision get peer_num <*extension*> sptgen provdelay	Displays the provision delay time configured in the auto provisioning file for this SIP account.
pbx server auto_provision get peer_num <*extension*> sptgen provinterval	Displays the provision interval configured in the auto provisioning file for this SIP account.
pbx server auto_provision get peer_num <*extension*> sptgen regexpire	Displays the register expire time configured in the auto provisioning file for this SIP account.
pbx server auto_provision get peer_num <*extension*> sptgen regip	Displays the register server ip configured in the auto provisioning file for this SIP account.
pbx server auto_provision get peer_num <*extension*> sptgen regport	Displays the register server port configured in the auto provisioning file for this SIP account.
pbx server auto_provision get peer_num <*extension*> sptgen sipip	Displays the proxy server ip configured in the auto provisioning file for this SIP account.
pbx server auto_provision get peer_num <*extension*> sptgen sipport	Displays the SIP server IP port configured in the auto provisioning file for this SIP account.
pbx server auto_provision get peer_num <*extension*> sptgen userid	Displays the SIP username configured in the auto provisioning file for this SIP account.
pbx server auto_provision set peer_num <*extension*> mac <*mac-address*>	Sets the MAC address of the ZyXEL IP phone that is going to receive the configuration file for this SIP account.
pbx server auto_provision set peer_num <*extension*> port <*port*>	Sets the port number of the ZyXEL ATA that is going to receive the configuration file for this SIP account.
pbx server auto_provision set peer_num <*extension*> provactive <0:off|1:on>	Activates or deactivates auto provisioning for this SIP account.
pbx server auto_provision set peer_num <*extension*> provdelay <0~30>	Specifies the amount of time (in seconds) that the X6004 waits before sending out a configuration file to this SIP extension.
pbx server auto_provision set peer_num <*extension*> provinterval <1~26000000>	Specifies the amount of time (in seconds) that the X6004 waits before resending an autoconfiguration file to a ZyXEL IP phone.
pbx server auto_provision set peer_num <*extension*> serial <*serial-number*>	Sets the serial number of a ZyXEL softphone that is going to receive the configuration file for this SIP account.
pbx server auto_provision show peer_num <*extension*>	Displays the configuration details contained in the auto provisioning file for a specific SIP extension.

5.1.1 Auto Provisioning Command Examples

This example:

- Specifies the ZyXEL IP phone with MAC address **12:34:56:12:34:56** to receive a configuration file for SIP extension **1005**.
- Activates auto provisioning for this extension.
- Specifies a file path to save the extension in on the X6004. (The file should always be saved in **/config/sptgen/** directory.)

- Displays the configuration file for extension **1005**.

```
> pbx server auto_provision set peer_num 1005 port 1
> pbx server auto_provision set peer_num 1005 mac 123456123456
> pbx server auto_provision set peer_num 1005 provactive 1
> pbx server auto_provision gen peer_num 1005
> pbx server auto_provision show peer_num 1005
980101001 = SIP #1 Active <0(No)|1(Yes)> = 1
980101002 = SIP #1 Server Address = 192.168.1.12
980101003 = SIP #1 Server Port <1024~65535> = 5060
980101004 = SIP #1 Registration Server IP = 192.168.1.12
980101005 = SIP #1 Registration Server Port <1024~65535> = 5060
980101006 = SIP #1 Registration Expire Time <2~65535> = 60
980101012 = SIP #1 UserId = 1005
980101013 = SIP #1 Password = 1005
980101014 = SIP #1 Phone Number = 1005
980101044 = SIP #1 2nd Backup Active <0(No)|1(Yes)> = 1
980101045 = SIP #1 2nd Backup Server Address = 172.23.37.201
980101046 = SIP #1 2nd Backup Server Port <1024~65535> = 5060
980101047 = SIP #1 2nd Backup Registartion Server IP = 172.23.37.201
980101048 = SIP #1 2nd Backup Registartion Server Port <1024~65535> 5060
980600001 = Auto Provision Avtive <0(No)|1(Yes)> = 1
980600003 = Auto Provision Expire Time (Second) <1~26000000> = 42300
980600005 = Auto Provision Protocol <0(TFTP)|1(HTTP)|2(HTTPS)> = 1
980600007 = Auto Provision Delay Time (Second)Random = 11
```

6

QoS Commands

This chapter shows you how to configure QoS settings via commands.

6.1 QoS Commands

The following table describes commands related to the Quality of Service (QoS) feature on the X6004. Refer to your network administrator or service provider for information on how to mark outgoing VoIP packets.

Table 15 QoS Commands

COMMAND	DESCRIPTION
`pbx server qos set ds <ds>`	Sets the QoS setting to DiffServ and specifies the DSCP value. *ds*: possible values include assured forwarding group (af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af43, af43), expedited forwarding point (ef), and class selector group(cs1, cs2, cs3, cs4, cs5, cs6, cs7).
`pbx server qos set none`	Sets the QoS setting to none.
`pbx server qos set tos <tos>`	Sets the QoS setting to ToS and specifies the ToS value. *tos*: mincost|reliability|throughput|lowdelay. Network administrators typically use lowdelay for VoIP traffic.
`pbx server qos set user <qos-value>`	Sets the QoS setting to user defined and specifies the value. *qos-value*: 0~255
`pbx server qos show`	Shows the QoS configuration settings.

6.1.1 QoS Command Examples

This example:

- Configures the X6004 to mark outgoing VoIP packets with Expedited Forwarding (EF) DiffServ Code Point.
- Displays QoS settings.

```
> pbx server qos set ds ef
> pbx server qos show
qos type=ds,qos value=ef
```

7

Phone Book Commands

This chapter shows you how to configure phone book settings via commands.

7.1 Phonebook Commands

The following table summarizes the commands related to the phonebook feature on the X6004.

Table 16 Phonebook Commands

COMMAND	DESCRIPTION
`pbx server phonebook add display_name <name>`	Adds a new local phone book entry.
`pbx server phonebook del display_name <name>`	Deletes an entry from the local phone book.
`pbx server phonebook ldap search`	Updates the newest phonebook from LDAP server.
`pbx server phonebook ldap set attr country <attribute-name>`	Modifies the country attribute in the LDAP phonebook.
`pbx server phonebook ldap set attr default`	Sets all attributes to default in the LDAP phonebook.
`pbx server phonebook ldap set attr department <attribute-name>`	Modifies the department attribute in the LDAP phonebook.
`pbx server phonebook ldap set attr display_name <attribute-name>`	Modifies the display_name attribute in the LDAP phonebook.
`pbx server phonebook ldap set attr home_phone <attribute-name>`	Modifies the home_phone attribute in the LDAP phonebook
`pbx server phonebook ldap set attr mail <attribute-name>`	Modifies the mail attribute in the LDAP phonebook.
`pbx server phonebook ldap set attr mobile <attribute-name>`	Modifies the mobile attribute in the LDAP phonebook.
`pbx server phonebook ldap set attr telephone_num <attribute-name>`	Modifies the telephone_number attribute in the LDAP phonebook.
`pbx server phonebook ldap set attr user_name <attribute-name>`	Modifies the user_name attribute in the LDAP phonebook.
`pbx server phonebook ldap set auto <on|off>`	Modifies phonebook update from the LDAP server status.
`pbx server phonebook ldap set basedn <pb_basedn>`	Modifies the LDAP server BaseDN setting in LDAP phonebook configuration. *pb_basedn*: a string identifying the location of your LDAP server where your the phonebook information is stored.

Table 16 Phonebook Commands (continued)

COMMAND	DESCRIPTION
pbx server phonebook ldap set hour <*hh*>	Modifies phonebook update from LDAP server hour setting.
pbx server phonebook ldap set min <*mm*>	Modifies phonebook update from LDAP server minute setting.
pbx server phonebook ldap set port <*port*>	Modifies the LDAP server port setting in the phonebook configuration.
pbx server phonebook ldap set pwd <*password*>	Modifies the LDAP server password setting in phonebook configuration.
pbx server phonebook ldap set rootdn <*username*>	Modifies the LDAP server RootDN (username) setting in phonebook configuration.
pbx server phonebook ldap set server <*ip-address*>	Modifies the LDAP server IP address setting in phonebook configuration.
pbx server phonebook ldap set status <on|off>	Modifies the LDAP server setting status in phonebook configuration.
pbx server phonebook ldap show	Shows all LDAP phonebook entries. This command displays a blank line if there is a problem with a connection to the LDAP server or there are no entries to display.
pbx server phonebook ldap show attr country	Shows the country attribute in the LDAP phonebook.
pbx server phonebook ldap show attr department	Shows the department attribute in the LDAP phonebook.
pbx server phonebook ldap show attr display_name	Shows the display_name attribute in the LDAP phonebook.
pbx server phonebook ldap show attr home_phone	Shows the home_phone attribute in the LDAP phonebook.
pbx server phonebook ldap show attr mail	Shows the mail attribute in the LDAP phonebook.
pbx server phonebook ldap show attr mobile	Shows the mobile attribute in the ‘LDAP phonebook.
pbx server phonebook ldap show attr telephone_num	Shows the telephone_number attribute in the LDAP phonebook.
pbx server phonebook ldap show attr user_name	Shows the user_name attribute in the LDAP phonebook.
pbx server phonebook ldap show auto	Shows phonebook update from LDAP server status.
pbx server phonebook ldap show basedn	Shows the LDAP server BaseDN setting in the phonebook configuration.
pbx server phonebook ldap show display_name <*name*>	Shows the information for the entry specified by name in the LDAP phonebook.
pbx server phonebook ldap show hour	Shows phonebook update from LDAP server hour setting.
pbx server phonebook ldap show index	Shows all of LDAP server user list.
pbx server phonebook ldap show min	Shows phonebook update from LDAP server minute setting.
pbx server phonebook ldap show port	Shows the LDAP server port setting in phonebook configuration.
pbx server phonebook ldap show pwd	Shows the LDAP server password setting in phonebook configuration.

Table 16 Phonebook Commands (continued)

COMMAND	DESCRIPTION
pbx server phonebook ldap show rootdn	Shows the LDAP server RootDN setting in phonebook configuration.
pbx server phonebook ldap show server	Shows the LDAP server IP address setting in phonebook configuration.
pbx server phonebook ldap show status	Shows the LDAP server setting status in phonebook configuration.
pbx server phonebook ldap show time	Shows the last update time from LDAP server.
pbx server phonebook set auto_update minute <*minutes*> hour <*hours*>	Modifies phonebook update from LDAP server hour and minute setting.
pbx server phonebook set display_name <*entry-name*> country <*country*>	Modifies **country** value of the specified local phonebook entry.
pbx server phonebook set display_name <*entry-name*> department <*department*>	Modifies the **department** value of the specified local phonebook entry.
pbx server phonebook set display_name <*entry-name*> home_phone <*home_phone*>	Modifies the **home_phone** value of the specified local phonebook entry.
pbx server phonebook set display_name <*entry-name*> mail <*mail*>	Modies the **mail** value of the specified local phonebook entry.
pbx server phonebook set display_name <*entry-name*> mobile <*mobile*>	Modifies the **mobile** value of the specified local phonebook entry.
pbx server phonebook set display_name <*entry-name*> telephone_num <*telephone_num*>	Modifies the **telephone_num** valueof the specified local phonebook entry.
pbx server phonebook set display_name <*entry-name*> user_name <*username*>	Modifies the **user_name** value of the specified local phonebook entry.
pbx server phonebook show	Displays the local phone book entries.
pbx server phonebook show display_name <*entry-name*>	Displays the details of a specified local phonebook entry.
pbx server phonebook show index	Displays local phone entries (listed by name).
pbx server phonebook show time	Displays the last local phonebook update.

7.1.1 Phonebook Command Examples

This example:

- Adds a local phonebook entry **Andre**.
- Adds the home telephone number of **555-5555** to the **Andre** entry in the local phone book.

- Displays the details for the **Andre** entry.

```
> pbx server phonebook add display_name Andre
> pbx server phonebook set display_name Andre home_phone "5554444"
Andre:homePhone=5554444
md5= 04d17b67bccff55919931711a89e1187
/config/ZyStack/share/phonebook/phonebook.ini created
1179284902
> pbx server phonebook show display_name Andre
Andre:c=
Andre:department=
Andre:displayName=Andre
Andre:homePhone=5554444
Andre:mail=
Andre:mobile=
Andre:telephoneNumber=
Andre:userPrincipalName=
>
```

8

Extension Management Commands

This chapter shows you how to configure authority groups and extensions via commands.

8.1 Call Access Code Commands

The following table describes commands related to the call access code feature on the X6004.

Table 17 Call Access Code Commands

COMMAND	DESCRIPTION
`pbx extension call_access_code add groupid <cac_groupid> code <cac_code>`	Creates a call access code for the specified authority group. The call access code can be from 5 to 10 digits long.
`pbx extension call_access_code del groupid <cac_groupid_list>`	Deletes a call access code.
`pbx extension call_access_code set extlen_max <1~9>`	Specifies the maximum length (number of digits) for extensions created on the X6004.
`pbx extension call_access_code set extlen_min <1~9>`	Specifies the minimum length (number of digits) for extensions created on the X6004.
`pbx extension call_access_code set groupid <cac_groupid> code <cac_code>`	Modifies an existing call access code.
`pbx extension call_access_code show all`	Displays all call access codes.

8.1.1 Call Access Code Command Examples

This example:

- Creates a call access code of **55555** for the authority group **Basic**.
- Displays call access codes configured on the X6004.

```
> pbx extension call_access_code add groupid Basic code 55555
ok
> pbx extension call_access_code show all
Basic 55555
```

8.2 Authority Group Commands

The following table describes commands related to the PBX functions on the X6004.

Table 18 Authority Group Commands

COMMAND	DESCRIPTION
`pbx extension authority_group add <mid> <group_name>`	Creates an authority group with specific MID (Machine ID) and group name.
`pbx extension authority_group del bygroupid <group_id>`	Deletes an authority group with specific (group ID). Note: Group ID is automatically assigned by the X6004 to each authority group you create. The format of group ID is **ag_XXX**. Where **XXX** is the sequential number in which the authority group was created. **ag_001** is given to the first authority group, **ag_002** is given to the second and so on.
`pbx extension authority_group del byname <group_name>`	Deletes an authority group with specific group name.
`pbx extension authority_group set description bygroupid <group_id> <description>`	Sets a description for an authority group specified by group ID.
`pbx extension authority_group set description byname <group_name> <description>`	Sets a description for an authority group specified by group name.
`pbx extension authority_group set groupname bygroupid <group_id> <group_name>`	Sets a name for an authority group specified by group ID.
`pbx extension authority_group set gid bygroupid <old_group_id> <new_group_id>`	Changes the authority group ID.
`pbx extension authority_group set gid bygroupname <group_name> <new_group_id>`	Sets the authority group ID of the specified authority group (identified by authority group name).
`pbx extension authority_group show all`	Displays authority group configuration details.
`pbx extension authority_group sync delete peer peer_num <extension>`	Deletes the specified extension and removes it from any group associations (for example a ring group).

8.2.1 Authority Group Command Examples

This example:

- Creates an authority group called **Consultants**.
- Gives the description “Authority group for temporary employees” to the authority group **Consultants**.

- Displays the authority groups configured on the X6004.

```
> pbx extension authority_group add IPPBX_001 Consultants
Info: Add a specific authority group ok.
groupid=ag_002
> pbx extension authority_group set description byname Consultants
"Authority Group for temporary employees"
> pbx extension authority_group show all

group id = [ag_001]
applyaa =
desp =
didflag = disable
include = local_call,long_distance_call,rg_Marketing,ag_002
matchdigit = 0
matchpart = last
mid = IPPBX_001
name = Basic
partialmappingflag = disable

group id = [ag_002]
applyaa =
desp = Authority Group for temporary employees
didflag = disable
include = ag_001
matchdigit = 0
matchpart = last
mid = IPPBX_001
name = Consultants
partialmappingflag = disable
```

8.3 SIP Extensions Commands

The following table summarizes commands related to SIP Extensions.

Table 19 SIP Extensions Commands

COMMAND	DESCRIPTION
`pbx server sip peer add <group_name> <extension>`	Adds a SIP extension to a specific authority group.
`pbx server sip peer del <extension>`	Deletes a SIP extension from the X6004.
`pbx server show peerinfo <peer_num>`	Displays the configuration of a specific SIP extension.
`pbx server show peers bygroupid <group_id>`	Displays the extensions which are part of a specific authority group. Authority groups are identified by group ID. Note: Group ID is automatically assigned by the X6004 to each authority group you create. The format of group ID is **ag_XXX**. Where **XXX** is the sequential number in which the authority group was created. **ag_001** is given to the first authority group, **ag_002** is given to the second and so on.

8.3.1 SIP Extensions Command Examples

This example:

- Adds extension **5001** to an authority group with group ID **ag_002**.
- Configures the SIP extension authentication, office hour, call forwarding, codec and group pickup settings:

```
> pbx server sip peer add ag_002 5001
Info: Add specific SIP peer ok.
> pbx server sip peer set ag_002 1013 sip_username=1013,sip_secret=1013,
sip_description=1013,sip%pincode=1013"ext_officeday=tue:wed:thu:fri:sat:,ex
t_officehour=*,ext_dndaction=enable,ext_blindfwaction=disable,ext_busyfwact
ion=enable,ext_busyfwnum=1001,ext_noanswerfwaction=disable,ext_blacklistact
ion=disable,ext_callblockaction=enabl,ext_afterhouraction=enable,ext_afterh
ournum=1001,sip_codec=g729:ulaw:alaw:g726:h261:,sip_dtmfmode=rfc2833,sip_ma
ilbox=1013,grouppickup=enable
```

8.4 FXS Interface Commands

The following table describes commands related to FXS connections on the X6004.

Table 20 FXS Interface Commands

COMMAND	DESCRIPTION
`pbx server fxs append channel groupid <group_id> slot <slot> port <port>`	Adds an FXS line to a specific authority group. The authority group is identified by group ID. Note: Group ID is automatically assigned by the X6004 to each authority group you create. The format of group ID is **ag_XXX**. Where **XXX** is the sequential number in which the authority group was created. **ag_001** is given to the first authority group, **ag_002** is given to the second and so on.
`pbx server fxs del channel groupid <group_id> slot <slot> port <port>`	Removes an FXS line from a specific authority group.
`pbx server fxs gen conf`	Generates an FXS configuration for the X6004.
`pbx server fxs get all information`	Displays FXS interface configuration on the X6004.
`pbx server fxs mid <mid> slot <slot> port <port> caller_id_dtmf_end <cidde>`	Modifies the FXS port caller id dtmf end value.
`pbx server fxs mid <mid> slot <slot> port <port> caller_id_dtmf_start <cidds>`	Modifies the FXS port caller id dtmf start value.
`pbx server fxs mid <mid> slot <slot> port <port> caller_id_payload_time <0~65535>`	Modifies the FXS port caller id payload time value.
`pbx server fxs mid <mid> slot <slot> port <port> caller_id_reversal_time_ <0~65535>`	Modifies the FXS port caller id reversal time value.

Table 20 FXS Interface Commands (continued)

COMMAND	DESCRIPTION
pbx server fxs mid <*mid*> slot <*slot*> port <*port*> caller_id_ring_time <0..65535>	Modifies the FXS port caller id ring value.
pbx server fxs mid <*mid*> slot <*slot*> port <*port*> caller_id_tas_type <*cidtastype*>	Modifies the FXS port caller id tas type value.
pbx server fxs mid <*mid*> slot <*slot*> port <*port*> caller_id_type <*cidtype*>	Modifies the FXS port caller id type value.
pbx server fxs mid <*mid*> slot <*slot*> port <*port*> country_code <*country-code*>	Modifies the FXS port country code area.
pbx server fxs mid <*mid*> slot <*slot*> port <*port*> dial_interval <*seconds*>	Modifies the FXS port dialing interval (in seconds).
pbx server fxs mid <*mid*> slot <*slot*> port <*port*> listen_vol <*-6~6*>	Modifies the FXS port listening volume level.
pbx server fxs mid <*mid*> slot <*slot*> port <*port*> speak_vol <*-6~6*>	Modifies the FXS port speaking volume level.
pbx server fxs mid <*mid*> slot all caller_id <0~5>	Sets the first TAS (Terminal Alerting Signal) parameter. TAS specifies the method to alert the receiver that data is forthcoming. The possible methods are: 0: ETSI DT-AS 1: ETSI RP-AS 2: ETSI Line reversal followed by ad DT-AS 3: ETSI During ringring 4: BellCore During ringring 5: DTMF
pbx server fxs mid <*mid*> slot all caller_id_dtmf_end <*caller-id-dtmf-end*>	Modifies all of the stack caller id dtmf end value.
pbx server fxs mid <*mid*> slot all caller_id_dtmf_start <*caller-id-dtmf-start*>	Modifies all of the stack caller id dtmf start value.
pbx server fxs mid <*mid*> slot all caller_id_payload_time <0~65535>	Modifies all of the stack caller id payload time value.
pbx server fxs mid <*mid*> slot all caller_id_reversal <0~65535>	Modifies all of the stack caller id reversal time value.
pbx server fxs mid <*mid*> slot all caller_id_ring_time <0~65535>	Modifies all of the stack caller id ring value.
pbx server fxs mid <*mid*> slot all caller_id_tas_type <*caller-id-tas-type*>	Modifies all of the stack caller id tas type value.
pbx server fxs mid <*mid*> slot all caller_id_type <*caller-id-type*>	Sets whether the X6004 displays the caller ID priror to or during ringing when calls come in.
pbx server fxs mid <*mid*> slot all country_code <*country-code*>	Modifies all of the stack FXS country code area.
pbx server fxs mid <*mid*> slot all dial_interval <*seconds*>	Modifies all of the stack FXS how many sec of dialing interval.
pbx server fxs mid <*mid*> slot all listen_vol <-6~6>	Modifies all of the stack FXS listening volume level.
pbx server fxs mid <*mid*> slot all speak_vol <-6~6>	Modifies all of the stack FXS speaking volume level.

Table 20 FXS Interface Commands (continued)

COMMAND	DESCRIPTION
pbx server fxs peer add <*group_name*> <*extension*> <*slot*> <*port*>	Add an FXS extension to the specified authority group. *group_name*: the name of an existing authority group. *extension*: extension number you want to assign to this analog phone. *slot*: A, B, C, D *port*: 1, 2, 3, 4
pbx server fxs peer del <*extension*>	Delete an FXS extension.
pbx server fxs set channel groupid <*group_id*> <*slot*> <*port*>	Assign an FXS port to an authority group. *group_id*: Authority group IDs are created automatically on the X6004. The first authority group is given the ID ag_001, the second ag_002 and so on.
pbx server fxs show mid <*mid*> slot <*slot*> port <*port*>	Displays the configuration of an FXS port.

8.4.1 FXS Interface Command Examples

This example:

- Adds the FXS port **1** in slot **D** of the X6004 to the authority group **ag_001**.

Authority group IDs are created automatically on the X6004. The first authority group is given the ID **ag_001**, the second **ag_002** and so on.

- Displays the country code options by using the **?** at the end of a command with multiple options.
- Changes the country code value for the FXO port **3** in slot **B** to **Poland**.

```
> pbx server fxo append channel groupid og_002 slot B port 3
> pbx server fxo mid IPPBX_001 slot B port 3 country_code ?
The conutry code number. [ 0:USA | 1:JAPAN | 2:TAIWAN | 3: AUSTRIA |
4:BELGIUM | 5:BULGARIA | 6:CZECH | 7:DENMARK | 8: FINLAND | 9:FRANCE |
10:HUNGARY | 11:ICELAND | 12:ITALY | 13: LUXEMBOURG | 14:NETHERLAND |
15:NORWAY | 16:POLAND | 17:PORTUGAL | 18:SLOVAKIA | 19:SPAIN | 20:SWEDEN
|21:SWITZERLAND | 22:UK | 23:GERMANY | 24:GREECE | 25:Australia | 26:New
Zealand | 27:Hong Kong | 28:Singapore | 29:Morocco | 30:Ireland |
31:Malaysia | 32:Russia | 33:Thailand | 34:Israel | 35:UAE | 36:China |
37:Ukraine | 38:South Africa | 39:Korea | 40:Philippine | 41:India |
42:Turkey | 254:Default ]
> pbx server fxo mid IPPBX_001 slot B port 3 country_code 16
```

8.5 Ring Group Commands

The following table describes commands related to the ring group functions on the X6004.

Table 21 Ring Group Commands

COMMAND	DESCRIPTION
`pbx extension ring_group ring add rgname <name> mid <mid>`	Creates a ring group and specifies the machine ID of the X6004 on which you want to create the ring group.
`pbx extension ring_group ring del rgname <name>`	Deletes a ring group.
`pbx extension ring_group ring set rgname <name> description <description>`	Specifies a description for a ring group.
`pbx extension ring_group ring show`	Displays all ring groups.
`pbx extensions reload`	Reloads the configuration of extension of SIP server.

8.5.1 Ring Group Command Examples

This example:

- Creates a ring group called **Marketing**.
- Gives the description “Marketing team ring group” to the ring group **Marketing**.
- Displays the ring groups configured on the X6004.

```
> pbx extension ring_group ring add rgname Marketing mid IPPBX_001
ok
> pbx extension ring_group ring set rgname Marketing description "Marketing
team ring group"
ok
> pbx extension ring_group ring show
Marketing=IPPBX_001,Marketing,Marketing team ring group
```

8.6 Hunt Group Commands

The following table describes commands related to the hunt group functions on the X6004.

Table 22 Hunt Group Commands

COMMAND	DESCRIPTION
`pbx extension ring_group hunt add rgname <name> mid <mid> entry <number>`	Creates a hunt group number within a ring group. This is the number dialed to call this hunt group.
`pbx extension ring_group hunt del rgname <name>`	Deletes all hunt group numbers from the ring group.
`pbx extension ring_group hunt del rgname <name> entry <number>`	Deletes a hunt group number from a ring group.
`pbx extension ring_group hunt set rgname <name> entry <number> algorithm <ringall|roundrobin|leastrecent|fewestcalls|random>`	Specifies the algorithm to use for a hunt group.

Table 22 Hunt Group Commands (continued)

COMMAND	DESCRIPTION
pbx extension ring_group hunt set rgname <*name*> entry <*number*> description <*description*>	Specifies a description for a hunt group.
pbx extension ring_group hunt set rgname <*name*> entry <*number*> nmember <*member*>	Adds an extension to this hunt group for night service time.
pbx extension ring_group hunt set rgname <*name*> entry <*number*> omember <*member*>	Adds an extension to this hunt group for office hours time.
pbx extension ring_group hunt show rgname <*name*>	Displays hunt groups configured within a ring group.
pbx extension ring_group hunt show rgname <*name*> entry <*number*>	Displays detailed information about a hunt group.

8.6.1 Hunt Group Command Examples

This example:

- Creates a hunt group number **0000** in the **Marketing** ring group.
- Creates a hunt group number **0001** in the **Marketing** ring group.
- Sets the hunt group algorithm to ring all phones in the hunt group **0000**.
- Displays all the hunt groups numbers configured in the **Marketing** group.

```
> pbx extension ring_group hunt add rgname Marketing mid IPPBX_001 entry
0000
ok
> pbx extension ring_group hunt add rgname Marketing mid IPPBX_001 entry
0001
ok
> pbx extension ring_group hunt set rgname Marketing entry 0000 algorithm
ringall
ok
> pbx extension ring_group hunt show rgname Marketing
groupname=Marketing,zystackid=IPPBX_001,entry=0000,description=
groupname=Marketing,zystackid=IPPBX_001,entry=0001,description=
```

8.7 Page Group Commands

The following table describes commands related to the page group functions on the X6004.

Table 23 Page Group Commands

COMMAND	DESCRIPTION
pbx extension ring_group page add rgname <*name*> mid <*mid*> entry <*number*>	Creates a page group number within a ring group. This is the number dialed to call this page group.
pbx extension ring_group page del rgname <*name*>	Deletes a page group.
pbx extension ring_group page del rgname <*name*> entry <*number*>	Deletes the page group number of a page group.
pbx extension ring_group page save	Saves the page group settings.

Table 23 Page Group Commands (continued)

COMMAND	DESCRIPTION
pbx extension ring_group page set rgname <*name*> entry <*number*> addext <*extension*>	Adds an extension to a page group.
pbx extension ring_group page set rgname <*name*> entry <*number*> clrext	Deletes all extension from a page group.
pbx extension ring_group page set rgname <*name*> entry <*number*> delext <*extension*>	Deletes an extension from a page group.
pbx extension ring_group page set rgname <*name*> entry <*number*> description <*description*>	Specifies a description for a page group.
pbx extension ring_group page set rgname <*name*> entry <*number*> pincode <*pin*>	Sets a PIN code for a page group. This value is entered by a caller after entering the page group number.
pbx extension ring_group page set rgname <*name*> entry <*number*> time <*seconds*>	Sets a maximum time in seconds that a caller can page a group.
pbx extension ring_group page show rgname <*name*>	Displays the page group number for this page group.
pbx extension ring_group page show rgname <*name*> entry <*number*>	Displays detailed information for a page group.

8.7.1 Page Group Command Examples

This example:

- Creates a page group number **9999** in the **Marketing** ring group.
- Adds extensions **1001**, **1002**, **1003** to the **9999** page group.
- Displays detailed settings for page group number **9999**.

```
> pbx extension ring_group page add rgname Marketing mid IPPBX_001 entry
9999
ok
> pbx extension ring_group page set rgname Marketing entry 9999 addext 1001
ok
> pbx extension ring_group page set rgname Marketing entry 9999 addext 1002
ok
> pbx extension ring_group page set rgname Marketing entry 9999 addext 1003
ok
> pbx extension ring_group page show rgname Marketing entry 9999
groupname=9999
entry=9999
mid=IPPBX_001
pincode=
time=
desc=
exten="1001","1002","1003"
```

8.8 Pickup Group Commands

The following table describes commands related to the pickup group feature on the X6004.

Table 24 Pickup Group Commands

COMMAND	DESCRIPTION
`pbx server pickupgroup add pg_name <name> description <description> mid <mid> extensions <extensions>`	Creates a pickup group.
`pbx server pickupgroup del pg_name <name>`	Deletes a pickup group.
`pbx server pickupgroup set pg_name <name> add extensions <extensions>`	Adds extensions to a pickup group.
`pbx server pickupgroup set pg_name <name> del extensions <extensions>`	Deletes extensions from a pickup group.
`pbx server pickupgroup set pg_name <name> description <description>`	Edits the description of a pickup group.
`pbx server pickupgroup set pg_name <name> description <description> extensions <extensions>`	Edits the description and specifies the extensions in a pickup group.
`pbx server pickupgroup show all`	Shows all pickup groups configured on the X6004.
`pbx server pickupgroup show pg_name <name>`	Shows the extensions that are part of a pickup group.

8.8.1 Pickup Group Command Examples

This example:

- Creates a pickup group called **Marketing** for extensions 1001, 1002 and 1003.
- Displays all pickup groups configured on the X6004.

```
> pbx server pickupgroup add pg_name Marketing description "pickup group for
marketing" mid IPPBX_001 extensions 1001,1002,1003
Add new pg success
> pbx server pickupgroup show all
Marketing
sales
```

9

Outbound Line Group Commands

This chapter shows you how to manage outside lines via commands.

9.1 Outbound Line Group Commands

The following table summarizes commands related to the outbound line group configuration on the X6004.

Table 25 Outbound Line Group Commands

COMMAND	DESCRIPTION
`pbx outbound outbound_line_group add <mid> <name>`	Adds an FXO trunk to the specified X6004.
`pbx outbound outbound_line_group del bygroupid <group_id>`	Deletes an FXO trunk with the specified group ID.
`pbx outbound outbound_line_group del byname <name>`	Deletes an FXO trunk with the specified name.
`pbx outbound outbound_line_group set applyaa bygroupid <group_id> <name>`	Specifies an auto-attendant for the FXO trunk identified by the group ID. Note: Group ID is automatically assigned by the X6004 to each FXO trunk you create. The format of group ID is **og_XXX**. Where **XXX** is the sequential number in which the FXO trunk was created. **og_001** is given to the first FXO trunk, **og_002** is given to the second and so on.
`pbx outbound outbound_line_group set applyaa byname <name> <name>`	Specifies an auto-attendant for the FXO trunk identified by the FXO trunk name.
`pbx outbound outbound_line_group set description bygroupid <group_id> <description>`	Sets a description for the FXO trunk identified by group ID.
`pbx outbound outbound_line_group set description byname <name> <description>`	Sets a description for the FXO trunk identified by FXO trunk name.

Table 25 Outbound Line Group Commands (continued)

COMMAND	DESCRIPTION
`pbx outbound outbound_line_group set groupname bygroupid <group_id> <name>`	Changes the name of an FXO trunk identified by group ID.
`pbx outbound outbound_line_group show all`	Displays the configuration of all FXO trunks.

9.1.1 Outbound Line Group Command Examples

This example:

- Creates an outbound line group called **NewConnection** and displays information about all outbound line groups.

```
> pbx outbound outbound_line_group add IPPBX_001 NewConnection
Info: Add specific group OK
> pbx outbound outbound_line_group show all

group id = [og_001]
        applyaa =
        desp =
        didflag = disable
        include = ag_001,ag_002
        matchdigit = 0
        matchpart = last
        mid = IPPBX_001
        name = PSTNUno
        partialmappingflag = disable

group id = [og_002]
        applyaa =
        desp =
        didflag = disable
        include = ag_001,ag_002
        matchdigit = 0
        matchpart = last
        mid = IPPBX_001
        name = NewConnection
        partialmappingflag = disable
```

9.2 SIP Trunk Commands

The following table summarizes commands related to the SIP trunk configuration on the X6004.

Table 26 SIP Trunk Commands

COMMAND	DESCRIPTION
`pbx outbound siptrunk set attribute <mid> <group_id> <att_value_list>`	Configures a SIP trunk. This involves a list of attribute, value pairs (**ATT_VALUE_LIST**). The format of **ATT_VALUE_LIST** is the following: **attribute1=value1,attribute2=value2A:value2B:** Commas (**,**) separate different attributes and colons (**:**) allow you to enter multiple values for a single attribute. Note: Group ID is automatically assigned by the X6004 to each SIP trunk you create. The format of group ID is **dg_XXX**. Where **XXX** is the sequential number in which the SIP trunk was created. **dg_001** is given to the first SIP trunk, **dg_002** is given to the second and so on.
`pbx outbound siptrunk show all <mid> <group_id>`	Displays the configuration of a SIP Trunk. The SIP trunk is identified by group ID.
`pbx outbound siptrunk show attribute <mid> <group_id> <attributes>`	Displays the specified attributes of a SIP trunk.
`pbx outbound sip_trunk_group add <mid> <name>`	Adds a SIP trunk.
`pbx outbound sip_trunk_group del bygroupid <group_id>`	Deletes a SIP trunk with the specified group ID.
`pbx outbound sip_trunk_group del byname <name>`	Deletes a SIP trunk with the specified SIP trunk name.
`pbx outbound sip_trunk_group set applyaa bygroupid <group_id> <name>`	Assigns an auto-attendant to a SIP trunk.
`pbx outbound sip_trunk_group set applyaa byname <name> <name>`	Assigns an auto-attendant to a SIP trunk.
`pbx outbound sip_trunk_group set description bygroupid <group_id> <description>`	Sets a description to a SIP trunk.
`pbx outbound sip_trunk_group set description byname <name> <description>`	Sets a description to a SIP trunk.
`pbx outbound sip_trunk_group set did bygroupid <group_id> <enable|disable>`	Enables or disable the Direct Inward Dialing (DID) feature for a SIP trunk.
`pbx outbound sip_trunk_group set did byname <name> <enable|disable>`	Enables or disable the Direct Inward Dialing (DID) feature for a SIP trunk.
`pbx outbound sip_trunk_group set groupname bygroupid <group_id> <name>`	Changes the name of a SIP trunk.
`pbx outbound sip_trunk_group set matchdigit bygroupid <group_id> <match_digit>`	Specifies the number of digits to match for the DID feature for a SIP trunk.

Table 26 SIP Trunk Commands (continued)

COMMAND	DESCRIPTION
pbx outbound sip_trunk_group set matchdigit byname <*name*> <*match_digit*>	Specifies the number of digits to match for the DID feature for a SIP trunk.
pbx outbound sip_trunk_group set matchpart bygroupid <*group_id*> <first|last>	Specifies whether to match the first or last part of incoming calls for the DID feature of a SIP trunk.
pbx outbound sip_trunk_group set matchpart byname <*name*> <*match_part*>	Specifies whether to match the first or last part of incoming calls for the DID feature of a SIP trunk.
pbx outbound sip_trunk_group set partialmatch bygroupid <*group_id*> <enable|disable>	Enables or disables partial match of DID feature.
pbx outbound sip_trunk_group set partialmatch byname <*name*> <enable|disable>	Enables or disables partial match of DID feature.
pbx outbound sip_trunk_group show all	Displays configuration details of all SIP trunks.

9.2.1 SIP Trunk Command Examples

This example:

- Creates a SIP trunk called **ITSPTrunk**.
- Configures the connection settings for **ITSPTrunk**.
- Displays the configuration details of **ITSPTrunk**.

```
> pbx outbound sip_trunk_group add IPPBX_001 ITSPTrunk
Info: Add a specific authority group ok.
groupid=dg_002
> pbx outbound siptrunk set attribute IPPBX_001 dg_002
sip_codec=g729:ulaw:alaw:g723:g726:,sip_server=www.sipserver.com,sip_regist
erserver=www.sipserver.com,sip_serverport=5060,sip_username=22232323,sip_se
cret=2222,sip_number=5555555
Info: Set specific SIP Trunk attribute ok.
> pbx outbound siptrunk show all IPPBX_001 dg_002
Profile of SIP Trunk Group
groupid = dg_002
mid = IPPBX_001
recordingflag = no
recordingtime =
sip%codec = g729:ulaw:alaw:
sip%context = dg_002
sip%dtmfmode = info
sip%insecure = very
sip%type = friend
sip_codec = g729:ulaw:alaw:g723:g726:
sip_number = 5555555
sip_registerserver = www.sipserver.com
sip_secret = 2222
sip_server = www.sipserver.com
sip_serverport = 5060
sip_username = 22232323
```

9.3 Trusted Peer Commands

The following table summarizes commands related to the trusted peer configuration on the X6004.

Table 27 Trusted Peer Commands

COMMAND	DESCRIPTION
`pbx outbound trustpeer set attribute <mid> <group_id> <att_value_list>`	Configures a trusted peer connection. This involves a list of attribute, value pairs (**ATT_VALUE_LIST**). The format of **ATT_VALUE_LIST** is the following: **attribute1=value1,attribute2=value2A:value2B:** Commas (**,**) separate different attributes and colons (**:**) allow you to enter multiple values for a single attribute. Note: Group ID is automatically assigned by the X6004 to each trusted peer connection you create. The format of group ID is **tg_XXX**. Where **XXX** is the sequential number in which the trusted peer connection was created. **tg_001** is given to the first trusted peer connection, **tg_002** is given to the second and so on.
`pbx outbound trustpeer show all <mid> <group_id>`	Displays the configuration of a trusted peer connection. The trusted peer is identified by group ID.
`pbx outbound trustpeer show attribute <mid> <group_id> <att_name_list>`	Displays the specified attributes of a trusted peer connection.
`pbx outbound trustpeer_group add <mid> <name>`	Adds a trusted peer connection.
`pbx outbound trustpeer_group del bygroupid <group_id>`	Deletes a trusted peer connection with the specified group ID.
`pbx outbound trustpeer_group del byname <name>`	Deletes a trusted peer connection with the specified SIP trunk name.
`pbx outbound trustpeer_group set description bygroupid <group_id> <description>`	Sets a description for a trusted peer (the trusted peer is identified by group ID).
`pbx outbound trustpeer_group set description byname <name> <description>`	Sets a description for a trusted peer (the trusted peer is identified by group name).
`pbx outbound trustpeer_group set groupname bygroupid <group_id> <name>`	Changes the name of a trusted peer connection.
`pbx outbound trustpeer_group show all`	Displays the configuration details of all trusted peer connections.

9.3.1 Trusted Peer Command Examples

This example:

- Creates a trusted peer connection called **BranchOffice**.
- Configures the connection settings for **BranchOffice**.

- Displays the configuration details of **BranchOffice**.

```
> pbx outbound trustpeer_group add IPPBX_001 BranchOffice
Info: Add a specific authority group ok.
groupid=tg_001
> pbx outbound trustpeer set attribute IPPBX_001 tg_001
sip_server=172.23.37.202,sip_codec=g729:ulaw:alaw:,sip_dtmfmode=info
Info: Set specific Trust Peer attribute ok.
> pbx outbound trustpeer show all IPPBX_001 tg_001
Profile of Trust Peer Group
groupid = tg_001
mid = IPPBX_001
recordingflag = no
recordingtime =
sip%codec = g729:ulaw:alaw:
sip%context = tg_001
sip%dtmfmode = info
sip%insecure = very
sip%type = friend
sip_server = 172.23.37.202
```

9.4 FXO Interface Commands

The following table describes commands related to FXO connections on the X6004.

Table 28 FXO Interface Commands

COMMAND	DESCRIPTION
`pbx server fxo append channel groupid <group_id> slot <slot> port <port>`	Adds an FXO line to an existing FXO trunk.
`pbx server fxo del channel groupid <group_id> slot <slot> port <port>`	Removes an FXO line from an existing FXO trunk.
`pbx server fxo gen conf`	Generates FXO configuration on the X6004.
`pbx server fxo get all information`	Gets all FXO configuration from the X6004.
`pbx server fxo mid <mid> slot <slot> port <port> busy_detect <count>`	Modifies the busy tone detect configuration for an FXO port.
`pbx server fxo mid <mid> slot <slot> port <port> country_code <country-code>`	Modifies the country code setting for an FXO port.
`pbx server fxo mid <mid> slot <slot> port <port> listen_vol <-6~6>`	Modifies the listening volume level for an FXO port.
`pbx server fxo mid <mid> slot <slot> port <port> speak_vol <-6~6>`	Modifies the speaking volume level for an FXO port.
`pbx server fxo mid <mid> slot all busy_detect <1~10>`	Modifies the busy tone detect configuration for all FXO ports on an X6004. The higher the quality of your FXO connection the lower you can set this setting.
`pbx server fxo mid <mid> slot all country_code <code>`	Modifies the country code setting for all FXO ports on an X6004. See Section 9.4.1 on page 57 for an example.
`pbx server fxo mid <mid> slot all listen_vol <-6~6>`	Modifies the listening volume level for all FXO ports on an X6004.
`pbx server fxo mid <mid> slot all speak_vol <-6~6>`	Modifies the speaking volume level for all FXO ports on an X6004.

Table 28 FXO Interface Commands (continued)

COMMAND	DESCRIPTION
`pbx server fxo set channel groupid <group_id> slot <slot> port <port>`	Adds an FXO line to an existing FXO trunk.
`pbx server fxo show mid <mid> slot <slot> port <port>`	Displays the configuration for an FXO port on the X6004. It shows whether this port is part of an FXO trunk.

9.4.1 FXO Interface Command Examples

This example:

- Adds the FXO port **3** in slot **B** of the X6004 to the outbound line group **og_002**.

Outbound line group IDs are created automatically on the X6004. The first outbound line group for FXO connections is given the ID **og_001**, the second **og_002** and so on.

- Displays the country code options by using the **?** at the end of a command with multiple options.
- Changes the country code value for the FXO port **3** in slot **B** to **Poland**.

```
> pbx server fxo append channel groupid og_002 slot B port 3
> pbx server fxo mid IPPBX_001 slot B port 3 country_code ?
The conutry code number. [ 0:USA | 1:JAPAN | 2:TAIWAN | 3: AUSTRIA |
4:BELGIUM | 5:BULGARIA | 6:CZECH | 7:DENMARK | 8: FINLAND | 9:FRANCE |
10:HUNGARY | 11:ICELAND | 12:ITALY | 13: LUXEMBOURG | 14:NETHERLAND |
15:NORWAY | 16:POLAND | 17:PORTUGAL | 18:SLOVAKIA | 19:SPAIN | 20:SWEDEN
|21:SWITZERLAND | 22:UK | 23:GERMANY | 24:GREECE | 25:Australia | 26:New
Zealand | 27:Hong Kong | 28:Singapore | 29:Morocco | 30:Ireland |
31:Malaysia | 32:Russia | 33:Thailand | 34:Israel | 35:UAE | 36:China |
37:Ukraine | 38:South Africa | 39:Korea | 40:Philippine | 41:India |
42:Turkey | 254:Default ]
> pbx server fxo mid IPPBX_001 slot B port 3 country_code 16
```

10

Auto-Attendant Commands

This chapter shows you how to manage auto-attendant via commands.

10.1 Auto-Attendant Commands

The following table describes commands related to the PBX functions on the X6004.

Table 29 Atuo-Attendant Commands

COMMAND	DESCRIPTION
`pbx outbound aa add aa_name <name> description <description>`	Adds an auto-attendant with specific name and description.
`pbx outbound aa apply`	Generates an auto-attendant configuration for the X6004.
`pbx outbound aa del aa_name <name>`	Deletes an auto-attendant.
`pbx outbound aa did`	Generates Direct Inward Dialing (DID) configuration for the X6004.
`pbx outbound aa gen template`	Generates a template of auto-attendant configuration for applying settings.
`pbx outbound aa set desp aa_name <name> description <description>`	Sets a description for specific an existing auto-attendant.
`pbx outbound aa set name old_aa_name <name> new_aa_name <name>`	Changes an auto-attendant name.
`pbx outbound aa set officehour aa_time <hh:mm-hh:mm> aa_daylist <daylist>`	Sets the system office hours and days. *daylist*: must be entered in the `mon:tue:wed:thu:fri:sat:sun` format, only include the days which you want to have office hours for.
`pbx outbound aa set old_aa_name <name> new_aa_name <name> description <description>`	Changes an auto-attendant name and description.
`pbx outbound aa show aa_name <name>`	Displays configuration details of an auto-attendant.
`pbx outbound aa-main change action fwtoext aa_name <name> aa_type <oh|ns> aa_key <key> aa_fwext <extension> aa_desp <description>`	Changes the action to forward to an extension number (*extension*) for the specified auto-attendant name (*name*), auto-attendant type (`oh` for office hours, `ns` for night service), option (*key*), and description (*description*) on the first level menu of an auto-attendant.
`pbx outbound aa-main change action fwtonext aa_name <name> aa_type <oh|ns> aa_key <key> aa_desp <description>`	Changes the action to forward to next menu for the specified auto-attendant name (*name*), auto-attendant type (`oh` for office hours, `ns` for night service), option (*key*), and description (*description*) on the first level menu of an auto-attendant.

Table 29 Atuo-Attendant Commands (continued)

COMMAND	DESCRIPTION
pbx outbound aa-main change action repeat aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_desp <*description*>	Changes the action to repeat current menu for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), option (*key*), and description (*description*) on the first level menu of an auto-attendant.
pbx outbound aa-main change key aa_name <*name*> aa_type <oh|ns> old_aa_key <*old_key*> new_aa_key <*new_key*>	Changes the option (*new_key*) for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), and old option key (*old_key*) on first level menu of an auto-attendant.
pbx outbound aa-main del aa_name <*name*> aa_type <oh|ns> aa_key <*key*>	Removes an option (*key*) for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service) on the first level menu of an auto-attendant.
pbx outbound aa-main set dialextflag aa_name <*name*> aa_type <oh|ns> aa_flag <enable|disable>	Enables or disables the dial extension numberoption for the current level menu of the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service) on the first level menu of an auto-attendant.
pbx outbound aa-main set fwextflag aa_name <*name*> aa_type <oh|ns> aa_flag <enable|disable>	Enables or disables forward to specific extension option for the current level menu of the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service) on the first level menu of an auto-attendant.
pbx outbound aa-main set fwextnum aa_name <*name*> aa_type <oh|ns> aa_fwext <*extension*>	Sets the forward extension number of the specified auto-attendant name (AA_name), auto-attendant type (oh for office hours, ns for night service) on the first level menu of an auto-attendant.
pbx outbound aa-main set nightservice aa_name <*name*> aa_type <oh|ns> aa_flag <enable|disable>	Enables or disables the night service feature of the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service) on the first level menu of an auto-attendant.
pbx outbound aa-main add fwtoext aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_fwext <*extension*> aa_desp <*description*>	Adds a forward to extension (*extension*) option to the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service),key (*key*) and description (*description*) of the first level menu of an auto-attendant.
pbx outbound aa-main add fwtonext aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_desp <*description*>	Adds a forward to next menu option to the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), key (*key*) and description (*description*) of the first level menu of an auto-attendant.
pbx outbound aa-main add repeat aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_desp <*description*>	Adds a repeat current menu option to the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), key (*key*) and description (*description*) of the first level menu of an auto-attendant.
pbx outbound aa-sub add fwtoext aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_fwext <*extension*> aa_desp <*description*> aa_keyseq <*aa_keyseq*>	Adds a forward to specific extension (*extension*) option (*key*) to the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), description (*description*), and key sequence (*aa_keyseq*: the path to this option).

Table 29 Atuo-Attendant Commands (continued)

COMMAND	DESCRIPTION
pbx outbound aa-sub add fwtonext aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_desp <*description*> aa_keyseq <*aa_keyseq*>	Adds a forward to next menu option (*key*) to the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), description (*description*), and key sequence (*aa_keyseq*: the path to this option).
pbx outbound aa-sub add repeat aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_desp <*description*> aa_keyseq <*aa_keyseq*>	Adds a repeat current menu option (*key*) to the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), description (*description*), and key sequence (*aa_keyseq*: the path to this option).
pbx outbound aa-sub add return aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_desp <*description*> aa_keyseq <*aa_keyseq*>	Adds a return to previous menu option (*key*) to the specified auto-attendant name (*name*), auto-attendant type (oh|ns), description (*description*), and key sequence (*aa_keyseq*: the path to this option).
pbx outbound aa-sub change action fwtoext aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_fwext <*extension*> aa_desp <*description*> aa_keyseq <*aa_keyseq*>	Changes an action to forward to an extension number (*extension*) for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), option (*key*), description (*description*), and key sequence (*aa_keyseq*) under the first level menu of an auto-attendant.
pbx outbound aa-sub change action fwtonext aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_desp <*description*> aa_keyseq <*aa_keyseq*>	Changes an action to forward to next menu for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), option (*key*), description (*description*), and key sequence (*aa_keyseq*) under the first level menu of an auto-attendant.
pbx outbound aa-sub change action repeat aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_desp <*description*> aa_keyseq <*aa_keyseq*>	Changes an action to repeat current menu for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), option (*key*), description (*description*), and key sequence (*aa_keyseq*) under the first level menu of an auto-attendant.
pbx outbound aa-sub change action return aa_name <*name*> aa_type <oh|ns> aa_key <*key*> aa_desp <*description*> aa_keyseq <*aa_keyseq*>	Changes an action to return to previous menu for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), option (*key*), description (*description*), and key sequence (*aa_keyseq*) under the first level menu of an auto-attendant.
pbx outbound aa-sub change key aa_name <*name*> aa_type <oh|ns> old_aa_key <*old_key*> new_aa_key <*new_key*> aa_keyseq <*aa_keyseq*>	Changes the operation key (*new_key*) for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), option (*old_key*), and key sequence (*aa_keyseq*) under the first level menu of an auto-attendant.
pbx outbound aa-sub del aa_name <*name*> aa_type <oh|ns> aa_keyseq <*aa_keyseq*>	Deletes an option for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), and key sequence (*aa_keyseq*) under the first level menu of an auto-attendant.
pbx outbound aa-sub set dialextflag aa_name <*name*> aa_type <oh|ns> aa_keyseq <*aa_keyseq*> aa_flag <enable|disable>	Enables or disables a dial extension number on the current level menu for the specified auto-attendant name (*name*), auto-attendant type (oh for office hours, ns for night service), and key sequence (*aa_keyseq*) under the first level menu of an auto-attendant.

10.1.1 Auto-Attendant Command Examples

This example:

- Creates a new auto-attendant configuration called **IAttend**.
- Enables dialing extensions during office hours.
- Sends all calls to extension 1001 during night hours.

```
> pbx outbound aa add aa_name IAttend description ""
> pbx outbound aa-main set dialextflag aa_name IAttend aa_type oh aa_flag
enable
> pbx outbound aa-main set fwextflag aa_name IAttend aa_type ns aa_flag
enable
> pbx outbound aa-main set fwextnum aa_name IAttend aa_type ns aa_fwext 1001
```

11

Outbound Dial Rule (LCR) Commands

This chapter shows you how to manage LCRs via commands.

11.1 LCR Commands

The following table describes commands related to the PBX functions on the X6004.

Table 30 LCR Commands

COMMAND	DESCRIPTION
`pbx outbound lcr add name <name> comment <description> maxcalltime <seconds> channel <channel_list>`	Creates an LCR entry. *seconds*: 1-99999, the maximum number of seconds allowed for outgoing calls via this LCR. Leave this field blank ‘” to indicate no limit. *channel_list*: a set of outbound line groups seperated by a comma.
`pbx outbound lcr del channel <channel_list>`	Removes an outbound line from an LCR.
`pbx outbound lcr del name <name>`	Deletes an LCR.
`pbx outbound lcr del name <name> channel <channel_list>`	Removes a channel from a specified LCR.
`pbx outbound lcr del name <name> dialcond <dialcond_list>`	Removes dial condition(s) from an LCR.
`pbx outbound lcr del namelist <name_list>`	Removes a list of LCRs.
`pbx outbound lcr set name <name> add dialcond <dialcond_list>`	Creates a dial condition for an LCR.
`pbx outbound lcr generate`	Saves the LCR entry on the X6004.
`pbx outbound lcr set name <name> channel <channel_list>`	Specifies a list of outbound line groups for an LCR.
`pbx outbound lcr set name <name> comment <description> maxcalltime <seconds> channel <channel_list>`	Specifies the values for a comment, maximum call time, and outbound line groups for an LCR.
`pbx outbound lcr set name <name> dialcond <dialcond> channel <channel> length <length>`	Sets a maximum length of outbound calls that use this LCR.

Table 30 LCR Commands (continued)

COMMAND	DESCRIPTION
pbx outbound lcr set name <*name*> dialcond <*dialcond*> channel <*channel*> offset <*offset*>	Sets the offset for a dial condition. The offset is the number of digits that the X6004 strips off of the beginning of a dialed number when this dial condition is used.
pbx outbound lcr set name <*name*> dialcond <*dialcond*> channel <*channel*> offset <*offset*> length <*length*> prefix <*prefix*> postfix <*postfix*>	Specifies all the settings for a dial condition.
pbx outbound lcr set name <*name*> dialcond <*dialcond*> channel <*channel*> postfix <*postfix*>	Sets the postfix for a dial condition. The postfix is the string of digits the X6004 adds to the end of a dialed number when this dial condition is used.
pbx outbound lcr set name <*name*> dialcond <*dialcond*> channel <*channel*> prefix <*prefix*>	Sets the prefix for a dial condition. The prefix is the string of digits the X6004 adds to the beginning of a dialed number when this dial condition is used.
pbx outbound lcr show all	Displays all LCRs created on the X6004.
pbx outbound lcr show name <*name*>	Displays configuration details of an LCR.
pbx outbound lcr show name <*name*> dialcond <*dialcond*>	Displays the channels to which a dial condition applies for a specified LCR.

11.1.1 LCR Command Examples

This example:

- Creates an LCR called **VoIPCalls** with the comment **LCR for VoIP calls**, no limit on call time and the outbound line group **ITSP** (the outbound line group must be preceded by the machine ID of X6004 - this is **IPPBX_001**, if you are not using a ZyStack, otherwise the last digit changes depending on when the X6004 was added to the ZyStack.
- Creates a dial condition **0.** (the period (**.**) is a wildcard indicating that any number can follow the **0** in order to match this dial condition).
- Creates an offset value of **1** for this LCR.
- Displays configuration details of **VoIPCalls**.

```
> pbx outbound lcr add name VoIPCalls comment "LCR for VoIP calls"
maxcalltime 0 channel IPPBX_001:ITSP:
ok
> pbx outbound lcr set name VoIPCalls add dialcond 0.
ok
> pbx outbound lcr set name VoIPCalls dialcond 0. channel IPPBX_001:ITSP:
offset 1
ok
> pbx outbound lcr show name VoIPCalls
VoIPCalls
comment : LCR for VoIP calls
max call time : 0
channel sequence: IPPBX_001:ITSP:
dial condition list : 0.
>
```

12

Group Management Commands

This chapter shows you how to use commands to manage groups on the X6004.

12.1 Group Management Commands

The following table describes commands related to the PBX functions on the X6004.

Table 31 Group Management Commands

COMMAND	DESCRIPTION
`pbx group_management conf all peer gen`	Generates all peer configuration for SIP server.
`pbx group_management conf gen`	Generate the configuration of all groups (authority, outbound line group) for SIP server
`pbx group_management conf peer gen <extension>`	Generate the configuration of specific PEER_NUM (peer number) for SIP server.
`pbx group_management group show all`	Displays the group management configuration of all groups(authority groups, outbound line groups, ring groups, LCRs).
`pbx group_management include set bygroupid <group_id> <include_list>`	Sets access permission (*include_list*) to a specific authority group or outbound line group. The authority group or outbound line group is identified by its group id.
`pbx group_management include set bygroupname <group_id> <include_list>`	Sets access permission (*include_list*) to a specific authority group or outbound line group. The authority group or outbound line group is identified by its group name.

12.1.1 Group Management Command Examples

This example:

- Gives the authority group **Basic** permission to use the LCR (outbound dialing rule) **ezout**.
- Gives the authority group ag_002 permission to use the LCR (outbound dialing rule) **local_call**.

- Displays group management configuration on the X6004.

```
> pbx group_management include set bygroupname Basic ezout
ezout
Group: Basic [ag_001] could access following group

 ZyStack ID Group Name Description
--------------------------------------------------------------------------------
-
 (LCR)ezouteasy to call out
> pbx group_management include set bygroupid ag_002 local_call
local_call
Group: Consultant [ag_002] could access following group

 ZyStack ID Group Name Description
--------------------------------------------------------------------------------
-
 (LCR)local_call local call LCR
> pbx group_management group show all

group id = [ag_001]
applyaa =
desp =
didflag = disable
include = ezout
matchdigit = 0
matchpart = last
mid = IPPBX_001
name = Basic
partialmappingflag = disable

group id = [ag_002]
applyaa =
desp =
didflag = disable
include = local_call
matchdigit = 0
matchpart = last
mid = IPPBX_001
name = Consultant
partialmappingflag = disable

group id = [og_001]
applyaa =
desp =
didflag = disable
include = ag_001,ag_002
matchdigit = 0
matchpart = last
mid = IPPBX_001
name = PSTN
partialmappingflag = disable
```

13

Call Services Commands

This chapter describes the commands used to configure call services on the X6004.

13.1 Auto Callback Commands

This section describes the commands used to configure the auto callback feature.

The following table lists the commands for this feature.

Table 32 Call Services Commands

COMMAND	DESCRIPTION
`pbx call_service auto_callback <off|on>`	Enables or disables auto callback.
`pbx call_service auto_callback set queue <1..5>`	Specifies the maximum number of callers that can queue for a single user.
`pbx call_service auto_callback show`	Displays auto callback configuration.

13.1.1 Auto Callback Command Examples

This example:

- Enables auto callback.
- Sets the maximum number of caller that can request auto callback for a single user to 3.
- Displays auto callback settings.

```
> pbx call_service auto_callback on
> pbx call_service auto_callback set queue 3
> pbx call_service auto_callback show
bCallback=on,callback queue size=3
```

13.2 Call Parking Commands

This section describes the commands used to configure the call parking feature.

The following table lists the commands for this feature.

Table 33 Call Parking Commands

COMMAND	DESCRIPTION
`pbx call_service call_parking gen`	Generate call parking configuration for the X6004.
`pbx call_service call_parking set parkext <extension> parkpos <1~99> parkingtime <seconds>`	Sets the call parking configuration with the following parameters: call parking extension - *extension*, number of parking positions - **PARK_POS**, maximum parking time - **PARK_TIME**.
`pbx call_service call_parking show all`	Displays call parking configuration.

13.2.1 Call Parking Command Examples

This example:

- Creates a call parking extension **6666** with **3** parking extensions and a maximum parking time of **120** seconds.
- Displays call parking settings.

```
> pbx call_service call_parking set parkext 6666 parkpos 3 parkingtime 120
Info: Set information ok.
> pbx call_service call_parking show all
== Call Park Information ==
parkext = 6666
parkpos = 3
parkingtime = 120
```

13.3 Distinctive Ring Commands

This section describes the commands used to configure distinctive ring for incoming calls.

The following table lists the commands for this feature.

Table 34 Distinctive Ring Commands

COMMAND	DESCRIPTION
`pbx call_service distinctive_ring <off|on>`	Enables or disables distinctive ring.
`pbx call_service distinctive_ring set fxo <1~12>`	Specifies the ring type to use for calls coming in via the FXO outbound line groups.
`pbx call_service distinctive_ring set internal <1~12>`	Specifies the ring type to use for internal calls.
`pbx call_service distinctive_ring set trunk <1~12>`	Specifies the ring type to use for calls coming in via the SIP outbound line groups.
`pbx call_service distinctive_ring show`	Displays the distinctive ring configuration.

13.3.1 Distinctive Ring Command Examples

This example:

- Enables distinctive ring.
- Specifies distinctive ring type **1** for FXO calls, **4** for SIP calls and **10** for internal calls.
- Displays distinctive ring settings.

```
> pbx call_service distinctive_ring on
> pbx call_service distinctive_ring set fxo 1
> pbx call_service distinctive_ring set trunk 4
> pbx call_service distinctive_ring set internal 10
> pbx call_service distinctive_ring show
bDistinctive=on,internal=10,trunk=4,fxo=1
```

13.4 Emergency Call Commands

This section describes the commands used to configure emergency numbers. The X6004 gives higher priority to emergency calls.

The following table lists the commands for this feature.

Table 35 Emergency Call Commands

COMMAND	DESCRIPTION
pbx call_service emergency_call add channel mid <*mid*> channel <*channel-name*>	Adds an outbound line group to be used for emergency calls. The outbound line group is identified by *mid*: machine id - IPPBX_001 to IPPBX_005 followed by the *channel-name*: outbound group name for SIP trunks or the following format for FXO trunks: **Slotx_Portz** where x can be A-D and z can be 1-4.
pbx call_service emergency_call add number <*telephone-number*>	Adds an emergency telephone number.
pbx call_service emergency_call clear channel	Removes all outbound line groups from being used for emergency calls.
pbx call_service emergency_call del channel mid <*mid*> channel <*channel-name*>	Deletes a specific outbound line group from being used for emergency calls.
pbx call_service emergency_call del number <*telephone-number*>	Deletes an emergency number.
pbx call_service emergency_call edit number old <*telephone-number*> new <*telephone-number*>	Modifies an emergency number.
pbx call_service emergency_call set channel mid <*mid*> channel <*channel-name*> prefix <*prefix*>	Specifies a prefix (set of digits) that the X6004 should put in the beginning of the outgoing emergency call for a specified outbound line group.
pbx call_service emergency_call show channel	Displays outbound line groups used for emergency calls.
pbx call_service emergency_call show number	Displays the emergency numbers configured on the X6004.
pbx call_service emergency_call write	Creates an emergency call dial plan.

13.4.1 Emergency Call Command Examples

This example:

- Adds an outbound line group PSTN1 to be used for emergency calls.
- Adds the telephone number 911 to be used for emergency calls.
- The emergency number and outbound line group is automatically displayed.

```
> pbx call_service emergency_call add channel mid IPPBX_001 channel PSTN1
> pbx call_service emergency_call add number 911
add number: 911
```

13.5 Meet-me Conference Commands

This section describes the commands used to configure the conference call feature.

The following table lists the commands for this feature.

Table 36 Meet-me Conference Commands

COMMAND	DESCRIPTION
pbx call_service meet-me_conference add room <*confroom*> mid <*mid*> member <3..32> pin <*pin*> description <*description*>	Creates a conference room, specifies theX6004 (if a ZyStack is configured), number of allowed callers, PIN code, and description.
pbx call_service meet-me_conference del room <*confroom*>	Deletes a conference room.
pbx call_service meet-me_conference set room <*confroom*> description <*description*>	Sets a description for a conference room.
pbx call_service meet-me_conference set room <*confroom*> member <3..32>	Sets a maximum number of callers for a conference room.
pbx call_service meet-me_conference set room <*confroom*> member <3..32> pin <*pin*> description <*description*>	Edits conference room settings, including maximum number of caller, PIN code and description.
pbx call_service meet-me_conference set room <*confroom*> pin <*pin*>	Sets a PIN code for a conference room.
pbx call_service meet-me_conference show	Displays the configuration details of a conference room.

13.5.1 Meet-me Conference Command Examples

This example:

- Creates a conference room number **123**, for **5** members and a PIN code **4179** and description **conference1**.
- Changes the PIN code to **7953**.

- Displays conference room settings.

```
> pbx call_service meet-me_conference add room 123 mid IPPBX_001 member 5
pin 4179 description conference1
> pbx call_service meet-me_conference set room 123 pin 7953
> pbx call_service meet-me_conference show
;IPPBX_001=27;room=123,mid=IPPBX_001,mem=5,pin=7953,desp=conference1;
```

13.6 Music on Hold Command

Use the `pbx call_service moh default` command to revert to the default music on hold file.

Table 37 Call Services Commands

COMMAND	DESCRIPTION
`pbx call_service moh default`	Sets the X6004 to use the default music on hold audio file.

Example:

```
> pbx call_service moh default
use default success.
```

14

ZyStack Commands

This chapter discusses the commands used for the ZyStack function on the X6004.

14.1 Stacking Commands

The following table summarizes commands related to stacking X6004s.

Table 38 Stacking Commands

COMMAND	DESCRIPTION
`stack add serial <serial-number> description <description> wan_ip <ip-address> lan_ip <ip-address> interface <LAN|WAN> failsafe <ACTIVE|STANDBY>`	Adds an X6004 into a ZyStack.
`stack del mid <mid>`	Removes an X6004 from a ZyStack.
`stack fdel mid <mid>`	Forces a deletion of a ZyStack member that has failed.
`stack intranet add <ip-address/mask-bits>`	Defines a subnet that will be treated as an intranet.
`stack intranet del <ip-address/mask-bits>`	Removes a subnet from being treated as an intranet.
`stack intranet show`	Displays the list of defined intranets for the ZyStack.
`stack modify mid <mid>`	Requests the specified X6004 to update its information to the master X6004.
`stack ping all`	Performs an IP connectivity test with members of a ZyStack.
`stack ping mid <mid>`	Performs an IP connectivity test with the specified X6004.
`stack reboot mid <mid>`	Reboots the specified X6004.
`stack show all`	Displays status information about all members of the X6004.
`stack show mid <mid>`	Displays the status information about the specified X6004.
`stack standalone`	Forces the X6004 that is being configured to leave the ZyStack and become a standalone machine. Note: This command reboots the X6004.
`stack zsupdate all`	Requests all slave machines to update their ZyStack information from the master X6004.

14.1.1 ZyStack Command Examples

This example:

- Displays the ZyStack configuration of X6004.

```
> stack show all
Machine ID: IPPBX_001
Serial: 12377
Description : Localhost
WAN IP Addr : 172.23.37.201
LAN IP Addr : 192.168.1.12
ZyStack IF: WAN
Type: Master
WAN MAC : 001349FE05BE
LAN MAC : 001349FE05BF
>
```

15

System Administrator Commands

This chapter discusses the commands used for managing administrative accounts on the X6004 as well as resetting the system to its factory defaults.

Firmware upgrades and configuration backup and restore is only available via the web configurator.

15.1 System Administrator Commands

The following table describes commands related to setting up administrator accounts on the X6004.

Table 39 System Administrator Commands

COMMAND	DESCRIPTION
`system admin add username <username> password <password> rank <rank> description <description>`	Creates an administrative account, specifies the username, password, rank and description of the account. *username*: up to 25 alphanumeric characters, spaces are not allowed and the first character must be a letter. *password*: up to 32 alphanumeric characters spaces are not allowed. *rank*: specifies the privilege level: `readonly` - can only view configuration settings. `fulladmin` - can perform all configuration changes. `debugadmin` - can perform all configuration changes as well as execute debugging commands. *description*: optional field. Use open and closed parantheses (“”) to leave the description blank.
`system admin del username <username>`	Deletes an administrative account.
`system admin set oldusername <username> username <new-username>`	Modifies the username for the specified administrator.
`system admin set username <username> description <description>`	Modifies the description for the specified administrator.
`system admin set username <username> password <password>`	Modifies the password for the specified administrator.

Table 39 System Administrator Commands (continued)

COMMAND	DESCRIPTION
`system admin set username <username> rank <rank>`	Modifies the rank of an existing administrator.
`system admin show <username>`	Displays the account information for the specified administrator.
`system admin show all`	Displays a list of all administrators.

15.1.1 System Administrator Command Examples

This example:

- Creates a new administrator account with the name **BigAdmin** with a rank of **200**.
- Displays all adminstrative accounts for the X6004.

```
> system admin add username BigAdmin password 1234 rank 200 description ""
Add new user success
> system admin show all
BigAdmin
admin
```

15.2 System Administrator Session Commands

The following table describes commands related to viewing any current administrative sessions and terminating a specific session.

These commands are only available to administrators with the rank of debug.

Table 40 System Administrator Commands

COMMAND	DESCRIPTION
`system admin logout webuser username <username>`	Logs out the specified administrator from an administrative session.
`system admin show webuser logined`	Displays the usernames of administrators logged into the X6004.

15.3 System Reset Command

Use the system config conf_reset command to reset the X6004 to its factory default configuration.

16

Registration Commands

This chapter describes how to use commands to register the X6004 with myZyXEL.com.

16.0.1 Registration Commands

The following table summarizes commands related to registering with myZyXEL.com.

Table 41 Registration Commands

COMMAND	DESCRIPTION
`register backup`	Creates a backup oflicense control information.
`register check username <username>`	Checks whether the specified username exists in MyZyXEL.com or not.
`register product registration`	Registers the X6004.
`register remove temp file`	Removes the temporary file used by the registration mechanism.
`register service upgrader <licensekey>`	Upgrades a service by providing a license key.
`register set countrycode <countrycode>`	Sets the country code of the myZyXEL.com user.
`register set email <email>`	Sets the e-mail address information of the myZyXEL.com user.
`register set password <password>`	Sets the password for the myZyXEL.com account.
`register set username <username>`	Sets the username for the myZyXEL.com account.
`register show all`	Shows registration details.
`register show license`	Shows license information details. For example, how many SIP extensions are registered.
`register show reg`	Shows the registration status.

16.0.2 Registration Command Examples

This example:

- Enters the email address **register@zyxel.com** as the administrator email address for myZyXEL.com registration.
- Enters the username **X6004user** as the username for myZyXEL.com registration.
- Enters the password **123456** as the password for myZyXEL.com registration.

- Displays the registration status of the X6004.

```
> register set email register@zyxel.com
0
> register set username X6004user
0
> register set password 123456
0
> register show all
 Attribute NameValue
------------------------------------------------------------------------
----
 User Name X6004user
 Password******
 E-mailregister@zyxel.com
 Country Code000
 Registration Statue This device is not registed to myZyXEL.com
```

17

Log Commands

This chapter describes the commands used to configure logging on the X6004.

17.1 System Log Commands

The following table describes commands related to the system logs on the X6004.

Table 42 System Log Commands

COMMAND	DESCRIPTION
`log set logging system-log category <ippbx|user|myzyxel-dot-com|default|all>level <normal|all>`	Specifies the category and level to log to the system log.
`log set logging system-log category <ippbx|user|myzyxel-dot-com|default|all> disable`	Disables logging the specified category to the system log.
`log set logging system-log suppression`	Enables log consolidation in the system log. This feature merges identical log entries into a single entry.
`log set logging system-log suppression interval <10~600>`	Sets the time interval for log consolidation in the system log.
`log clear logging debug buffer`	Deletes all logs.
`log clear logging system-log buffer`	Deletes system logs.
`log set logging debug suppression`	Activates log consolidation for the system log.
`log set logging debug suppression interval <10~600>`	Specifies the time interval for log consolidation in the system log.
`log del logging debug suppression`	Disables log consolidation in the debug log.
`log del logging debug suppression interval`	Sets the log consolidation interval for the debug log.
`log del logging system-log suppression`	Disables log consolidation in the system log.
`log del logging system-log suppression interval`	Clears the time interval for log consolidation in the system log.
`log show logging category`	Displays all log categories.
`log show logging debug entries`	Displays all debug log entries.
`log show logging debug entries field <time|msg|src|dst|note|pri|cat|all>`	Displays the specified field or (all fields) of all debug log entries.
`log show logging debug entries field <time|msg|src|dst|note|pri|cat|all> begin <1~512> end <1..512>`	Displays the selected or all fields from the specified range of debug log entries. The fields can indicate: time, message, source, destination, note, priority, category.

Table 42 System Log Commands (continued)

COMMAND	DESCRIPTION
`log show logging debug status`	Shows the current settings for the debug log.
`log show logging entries`	Displays system log entries.
`log show logging entries category <ippbx|user|myzyxel-dot-com|default|all>`	Displays the specified categories of system logs.
`log show logging entries field <time|msg|src|dst|note|pri|cat|all>`	Displays the specified fields of system logs.
`log show logging entries field <time|msg|src|dst|note|pri|cat|all> begin <1~512> end <1~512>`	Displays the specified fields of system logs in the specified log entry range.
`log show logging status`	Displays the current settings for the system log, mail log and remote syslog.
`log show logging status <syslog|mail|system-log>`	Displays the current settings for the specified logging configuration.

17.1.1 Remote Log Server Command Examples

This example:

- Displays all log categories.
- Specifies the logging of category: **ippbx**, level: **normal** logs in the system log.
- Specifies the logging of category**: user**, level: **all** logs in the system log.
- Displays all system log entries.

```
> log show logging category
ippbx, user, myzyxel-dot-com, default
> log set logging system-log category ippbx level normal
server category 'ippbx' is : normal
> log set logging system-log category user level all
server category 'user' is : all
> log show logging entries
TABLE;THS=,
No. ,Date/Time,Source ,Destination,Note
 Priority ,Category ,
 Message
================================================================================
====
1,2007-05-21 13:04:42,172.23.37.17 ,172.23.37.201,
 info ,user ,
 admin_login_success
2 ,2007-05-18 11:07:29,172.23.37.17 ,172.23.37.201,
 info ,user ,
 admin_login_success
3 ,2007-05-18 10:26:20,172.23.37.17 ,172.23.37.201,
 info ,user ,
 admin_login_success
>
```

17.2 Email Profile Log Commands

The following table describes commands related to the email log functions on the X6004.

Table 43 Email Profile Log Commands

COMMAND	DESCRIPTION
`log set logging mail <1|2>`	Activates a mail profile for sending logs to.
`log set logging mail <1|2> <send-log-to|send-alerts-to> <email>`	Specifies the email address to send logs or alerts to.
`log set logging mail <1|2> from <email>`	Specifies the email address to fill in the **From** field of log messages sent to this email profile.
`log set logging mail <1|2> address <mail-server>`	Specifies the IP address or domain name of the mail server for this email profile.
`log set logging mail <1|2> authentication`	Activates authentication for sending logs to this email profile.
`log set logging mail <1|2> authentication username <user_name> password <password>`	Specifies the username and password to use for this email server authentication.
`log set logging mail <1|2> category <ippbx|user|myzyxel-dot-com|default|all> level <alert|all>`	Specifies which categories and what level of log messages are sent to this email profile.
`log set logging mail <1|2> schedule <daily|full|hourly|weekly>`	Specifies the schedule for sending logs to this email profile.
`log set logging mail <1|2> schedule daily hour <0~23> minute <0~59>`	Specifies the time of day to send logs to this email profile.
`log set logging mail <1|2> schedule weekly day <sun|mon|tue|wed|thu|fri|sat> hour <0~23> minute <0~59>`	Specifies the day of the week and time of day for sending logs to this email profile.
`log set logging mail <1|2> subject <description>`	Specifies the subject line for logs sent to this email profile.
`log del logging mail <1|2>`	Disables the specified e-mail profile.
`log del logging mail <1|2> <email>`	Clears the log destination email address.
`log del logging mail <1|2> address`	Clears the log destination address of the mail server.
`log del logging mail <1|2> authentication`	Disables SMTP authentication with the mail server.
`log del logging mail <1|2> authentication username`	Clears the SMTP authentication sent to the mail server.
`log del logging mail <1|2> category <ippbx|user|myzyxel-dot-com|default|all> level <normal|alert>`	Disables the logging of the specified type of log for the specified category.
`log del logging mail <1|2> schedule`	Resets the schedule setting to **full** for the specified mail profile.
`log del logging mail <1|2> subject`	Clears the subject setting for the logs sent to the specified mail profile.
`log set logging mail sending-now`	Sends the current log to the active email profiles.
`log show logging status`	Displays the current settings for the system log, mail log and remote syslog.
`log show logging status <syslog|mail|system-log>`	Displays the current settings for the specified logging configuration.

17.2.1 Email Profile Command Examples

This example:

- Enables email log profile **1**.
- Specifies the email address for sending logs to (**admin@zyxel.com**).
- Specifies the mail server to send logs to as **mail.zyxel.com**.
- Specifies to send the log when the log buffer is full.
- Specifies the category **ippbx** and level **all** to be sent to this email profile.
- Specifies the subject of log emails to be **IPPBX Log Message**.
- Displays the settings for the log email profiles configured on theX6004.

```
>log set logging mail 1
mail server '1': on
> log set logging mail 1 send-log-to admin@zyxel.com
mail server '1' send-log-to is : admin@zyxel.com
> log set logging mail 1 address mail.zyxel.com
mail server '1' address: mail.zyxel.com
> log set logging mail 1 category ippbx level all
mail server '1' log_category(ippbx) is:all
> log set logging mail 1 schedule full
mail server '1' schedule is : full
> log set logging mail 1 subject "IPPBX Log Message"
> log show logging status mail
TREE;
mail server: [1]
active: yes, server address: mail.zyxel.com
smtp: no, user:
mail subject: IPPBX Log Message
from: tomasz.hasinski@zyxel.com.tw
send log to: admin@zyxel.com
send alerts to:
sending log schedule: full
day for sending log: 0
time for sending log: 00:00
category settings:
ippbx: yes, ippbx alert: no ,
user : no , user alert : no ,
myZyXEL.com: no , myZyXEL.com alert: no ,
default: no , default alert: no ,
mail server: [2]
active: no, server address:
smtp: no, user:
mail subject:
from:
send log to:
send alerts to:
sending log schedule: full
day for sending log: 0
time for sending log: 00:00
category settings:
ippbx: no , ippbx alert: no ,
user : no , user alert : no ,
myZyXEL.com: no , myZyXEL.com alert: no ,
default: no , default alert: no ,
```

17.3 Syslog Server Commands

The following table describes commands related to the syslog functions on the X6004.

Table 44 Syslog Server Commands

COMMAND	DESCRIPTION
`log set logging syslog <1~4>`	Activates the specified external syslog profile.
`log set logging syslog <1~4> address <hostname>`	Specifies the IP address or domain name of the specified syslog server.
`log set logging syslog <1~4> category <ippbx|user|myzyxel-dot-com|default|all> disable`	Disables logging the chosen category for the specified syslog server.
`log set logging syslog <1~4> category <ippbx|user|myzyxel-dot-com|default|all> level <normal|all>`	Specifies the category and level for log messages sent to this external syslog server.
`log set logging syslog <1~4> facility <local_1|local_2|local_3|local_4|local_5|local_6|local_7>`	Specifies the facility to send the logs to for this external syslog server.
`log del logging syslog <1~4>`	Deactivates the specified syslog server.
`log del logging syslog <1~4> address`	Clears the external syslog server address of the specified server.
`log del logging syslog <1~4> category <ippbx|user|myzyxel-dot-com|default|all>`	Resets the category for sending logs to the specified syslog server.
`log del logging syslog <1~4> facility`	Resets the facility of the specified syslog server.
`log show logging status`	Displays the current settings for the system log, mail log and remote syslog.
`log show logging status <syslog|mail|system-log>`	Displays the current settings for the specified logging configuration.

17.3.1 Syslog Server Command Examples

This example:

- Activates sending logs to remote syslog server with the IP address 172.23.37.209.
- Specifies the category **user** and level **all** logs to be sent to this syslog server.
- Specifies the category **ippbx** and level **all** logs to be sent to this syslog server.

- Displays the syslog settings.

```
> log set logging syslog 1
server '1': on
> log set logging syslog 1 address 172.23.37.209
server '1' address:172.23.37.209
> log set logging syslog 1 category user level all
server '1' log_category(user): all
> log set logging syslog 1 category ippbx level all
server '1' log_category(ippbx): all
> log show logging status syslog
TREE;
remote server: [1]
active: yes
log format: vrpt, server address: 172.23.37.209, log facility: Local_1
category settings:
ippbx : all, user: all,
myZyXEL.com : no , default : no ,
remote server: [2]
active: no
log format: vrpt, server address: , log facility: Local_1
category settings:
ippbx : no , user: no ,
myZyXEL.com : no , default : no ,
remote server: [3]
active: no
log format: vrpt, server address: , log facility: Local_1
category settings:
ippbx : no , user: no ,
myZyXEL.com : no , default : no ,
remote server: [4]
active: no
log format: vrpt, server address: , log facility: Local_1
category settings:
ippbx : no , user: no ,
myZyXEL.com : no , default : no ,
```

18

CDR Commands

This chapter describes the commands used to configure Call Detail Record (CDR) on the X6004.

18.1 CDR Commands

The following table describes commands related to the CDR functions on the X6004.

Table 45 CDR Commands

COMMAND	DESCRIPTION
`pbx cdr backup now`	Creates a backup of the CDR file.
`pbx cdr db_config reload`	Reloads the X6004 database connection configuration.
`pbx cdr del backup <1~3>`	Deletes the specified CDR backup file.
`pbx cdr forward backup <1~3>`	Emails the specified CDR backup file.
`pbx cdr set aged_action <drop|mail>`	Specifies the action for an aged backup file.
`pbx cdr set alert <on|off>`	Enables or disables the “backup file is full” alert.
`pbx cdr set email <email>`	Sets the email address for sending CDR files and alerts to.
`pbx cdr set internal_cdr <on|off>`	Enables or disables the recording of internal call details.
`pbx cdr set remote <on|off>`	Enables or disables a remote database for storage of CDRs.
`pbx cdr set remote db addr <database-address>`	Specifies the IP address or domain name of a remote database for CDR storage.
`pbx cdr set remote db password <password>`	Specifies the password for the remote database.
`pbx cdr set remote db port <1~65535>`	Specifies the port to use for communication with the remote database.
`pbx cdr set remote db user <username>`	Specifies the username for authenticating with the remote database.
`pbx cdr show backup`	Displays all CDR backup files.

18.1.1 CDR Command Examples

This example:

- Enables remote storage of CDR files.
- Specifies the IP address (**172.23.37.201**) of the remote CDR database.
- Specifies the port number (**660**) to use for communication with the remote database.

- Provides the username (**CDRuser**) and password (**CDRpass**) for authentication with the remote database.

```
> pbx cdr set remote on
> pbx cdr set remote db addr 172.23.37.201
> pbx cdr set remote db port 660
> pbx cdr set remote db user CDRuser
> pbx cdr set remote db password CDRpass
```

19

Status Commands

This chapter describes the commands used to view status details on the X6004.

19.1 Status Commands

The following table describes commands used to view the status of the various components (for example SIP peers, FXO trunks, and so on) of the X6004.

Table 46 CDR Commands

COMMAND	DESCRIPTION
`pbx show fxo-peers-status call_status busy`	Displays details about FXO trunks currently being used.
`pbx show fxo-peers-status call_status idle`	Displays details about FXO trunks currently not being used.
`pbx show fxo-peers-status mid <mid>`	Displays details about FXO trunks configured on the specified X6004.
`pbx show fxs-peers-status call_status busy`	Displays details about analog phone extensions currently being used.
`pbx show fxs-peers-status call_status idle`	Displays details about analog phone extensions currently not being used.
`pbx show fxs-peers-status mid <mid>`	Displays details about analog phone extensions configured on the specified X6004.
`pbx show sip-peers-status authority_group <authority-group>`	Displays details about SIP extensions belonging to the specfied authority group.
`pbx show sip-peers-status call_status busy`	Displays details about SIP extensions currently being used.
`pbx show sip-peers-status call_status idle`	Displays details about SIP extensions currently not being used.
`pbx show sip-peers-status mid <mid>`	Displays details about SIP extensions configured on the specified X6004.
`pbx show sip-peers-status registration_status offline`	Displays details about SIP extensions with the registrations status **offline**.
`pbx show sip-peers-status registration_status online`	Displays details about SIP extensions with the registrations status **online**.
`pbx show sip-trunk-status call_status busy`	Displays details about SIP trunks currently being used.
`pbx show sip-trunk-status call_status idle`	Displays details about SIP trunks currently not being used.

Table 46 CDR Commands (continued)

COMMAND	DESCRIPTION
`pbx show sip-trunk-status mid <mid>`	Displays details about SIP trunks configured on the specified X6004.
`pbx show sip-trunk-status registration_status Auth.Sent`	Displays details about SIP trunks with the registrations status **Authentication Sent**.
`pbx show sip-trunk-status registration_status offline`	Displays details about SIP trunks with the registrations status **offline**.
`pbx show sip-trunk-status registration_status online`	Displays details about SIP trunks with the registrations status **online**.

19.1.1 Status Command Examples

This example:

- Displays information about all FXS extension not being used.

```
> pbx show fxs-peers-status call_status idle
Machine Id     Slot     Port     Number     Call Status
-----------------------------------------------------------
 IPPBX_001        A        1        N/A            idle
 IPPBX_001        A        2        N/A            idle
 IPPBX_001        A        3        N/A            idle
 IPPBX_001        A        4        N/A            idle
-----------------------------------------------------------
```

20

Diagnostics Commands

This chapter covers the diagnostics commands you can execute on the X6004.

20.1 System Diagnostics Commands

The following table describes commands related to the system diagnostic functions on the X6004.

Table 47 System Diagnostics Commands

COMMAND	DESCRIPTION
`diag show cpu [mid <mid>]`	Displays the CPU speed and the percentage utilization of the processor's capacity.
`diag show disk [mid <mid>]`	Displays the percentage of total flash memory used on the X6004.
`diag show fan [mid <mid>]`	Displays the fan speed.
`diag show ip [mid <mid>]`	Shows the IP addresses for the LAN and WAN interfaces on the X6004.
`diag show license [mid <mid>]`	Displays the number of licenses for SIP extensions and softphones connecting to the X6004.
`diag show mac [mid <mid>]`	Shows the MAC addresses for the LAN and WAN interfaces on the X6004.
`diag show mem [mid <mid>]`	Displays information about RAM.
`diag show serial [mid <mid>]`	Displays the serial number of the X6004.
`diag show time [mid <mid>]`	Displays the current system time on the X6004.
`diag show uptime [mid <mid>]`	Displays system uptime.
`diag show version [mid <mid>]`	Displays firmware version number.
`diag zystack show status`	Displays the status of ZyStack members.

20.1.1 System Diagnostics Command Examples

This example displays how long the X6004 has been running and the IP addresses of the LAN and WAN interfaces:

```
> diag show uptime mid IPPBX_001
system uptime :  1 day
> diag show ip
WAN IP : 172.23.37.201
LAN IP : 192.168.1.12
```

20.2 Network Diagnostic Commands

The following table describes commands related to the network diagnostic functions on the X6004.

Table 48 Network Diagnostics Commands

COMMAND	DESCRIPTION
`diag show arp_table [mid <mid>]`	Displays the ARP table on the X6004. Optionally, on the specified X6004.
`diag show ip_route [mid <mid>]`	Displays the static routes configured on the X6004. Optionally, on the specified X6004.
`diag ping <ip-address|host-name> [mid <mid>]`	Executes a ping command to the specified network device. Optionally, from the specified X6004.
`diag traceroute <ip-address|host-name> [mid <mid>]`	Executes a traceroute command to the specified network device. Optionally, from the specified X6004.

20.3 PBX Diagnostics Commands

The following table describes commands related to the PBX diagnostic functions on the X6004.

Table 49 PBX Diagnostics Commands

COMMAND	DESCRIPTION
`diag dial <peer_num> <peer_num> [mid <mid>]`	Tests a connection between the specified extension numbers. Optionally, specifying which IPPBX the call should go through.
`diag pbx show channels [mid <mid>]`	Displays information about active outbound line groups configured on the X6004. Optionally, on the specified X6004.
`diag pbx show hunts [mid <mid>]`	Displays hunt group status information. Optionally, on the specified X6004.
`diag pbx show parkedcall [mid <mid>]`	Displays status information about parked calls. Optionally, on the specified X6004.
`diag pbx show autocallback [mid <mid>]`	Displays status information about auto callback. Optionally, on the specified X6004.
`diag pbx show reg_peers [mid <mid>]`	Displays status information about SIP trunks configured on the X6004. Optionally, on the specified X6004.
`diag pbx show peer_detail <extension> [mid <mid>]`	Displays status details about a SIP extension configured on the X6004. Optionally, on the specified X6004.
`diag pbx show database status [mid <mid>]`	Displays status information for the SIP extension database.
`diag pbx show database db <sip|extension> [mid <mid>]`	Displays the SIP or Extension table on the X6004.Optionally, on the specified X6004.
`diag pbx show meetme roomnum <conference_room_number> [mid <mid>]`	Displays status information about a meet-me conference specified by the conference room number. Optionally, on the specified X6004.
`diag pbx show sip_trunk status [mid <mid>]`	Displays registration status of the SIP trunks configured on the X6004. Optionally, on the specified X6004.

Table 49 PBX Diagnostics Commands (continued)

COMMAND	DESCRIPTION
`diag pbx show sip setting [mid <mid>]`	Displays SIP server settings configured on the X6004. Optionally, on the specified X6004.
`diag pbx set debug level <1~3> time <10~60> [mid <mid>]`	Set the debug level and set the time for capturing information.
`diag pbx set debug sip level <1..3> time <10~60> [mid <mid>]`	Set the SIP debug level and set the time for capturing information.
`diag pbx set debug sip_peer peer <extension> level <1~3> time <10..60> [mid <mid>]`	Set the SIP extension debug level and set the time for capturing information.

20.3.1 PBX Diagnostics Command Examples

This example displays whether the SIP database is functioning properly (alive) or down (down):

```
> diag pbx show database status
datebase is alive
```

20.3.2 PBX Diagnostics Command Examples

This example shows iformation about outbound lines configured on the X6004.

```
> diag pbx show channels
Channel              Location             State   Application(Data)
fxo99                (None)               Down    (None)
fxo98                (None)               Down    (None)
fxo97                (None)               Down    (None)
fxo96                (None)               Down    (None)
4 active channels
0 active calls
```

PART III
Appendices and Index of Commands

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A

Legal Information

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這是甲類的資訊產品，在居住的環境使用時，
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CLASS 1 LASER PRODUCT

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PRODUIT CONFORME SELON 21 CFR 1040.10 ET 1040.11.

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Register your product online to receive e-mail notices of firmware upgrades and information at www.zyxel.com for global products, or at www.us.zyxel.com for North American products.

B

Customer Support

Please have the following information ready when you contact customer support.

Required Information

- Product model and serial number.
- Warranty Information.
- Date that you received your device.
- Brief description of the problem and the steps you took to solve it.

"+" is the (prefix) number you dial to make an international telephone call.

Corporate Headquarters (Worldwide)

- Support E-mail: support@zyxel.com.tw
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- Fax: +886-3-578-2439
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- Fax: +358-9-4780-8448
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